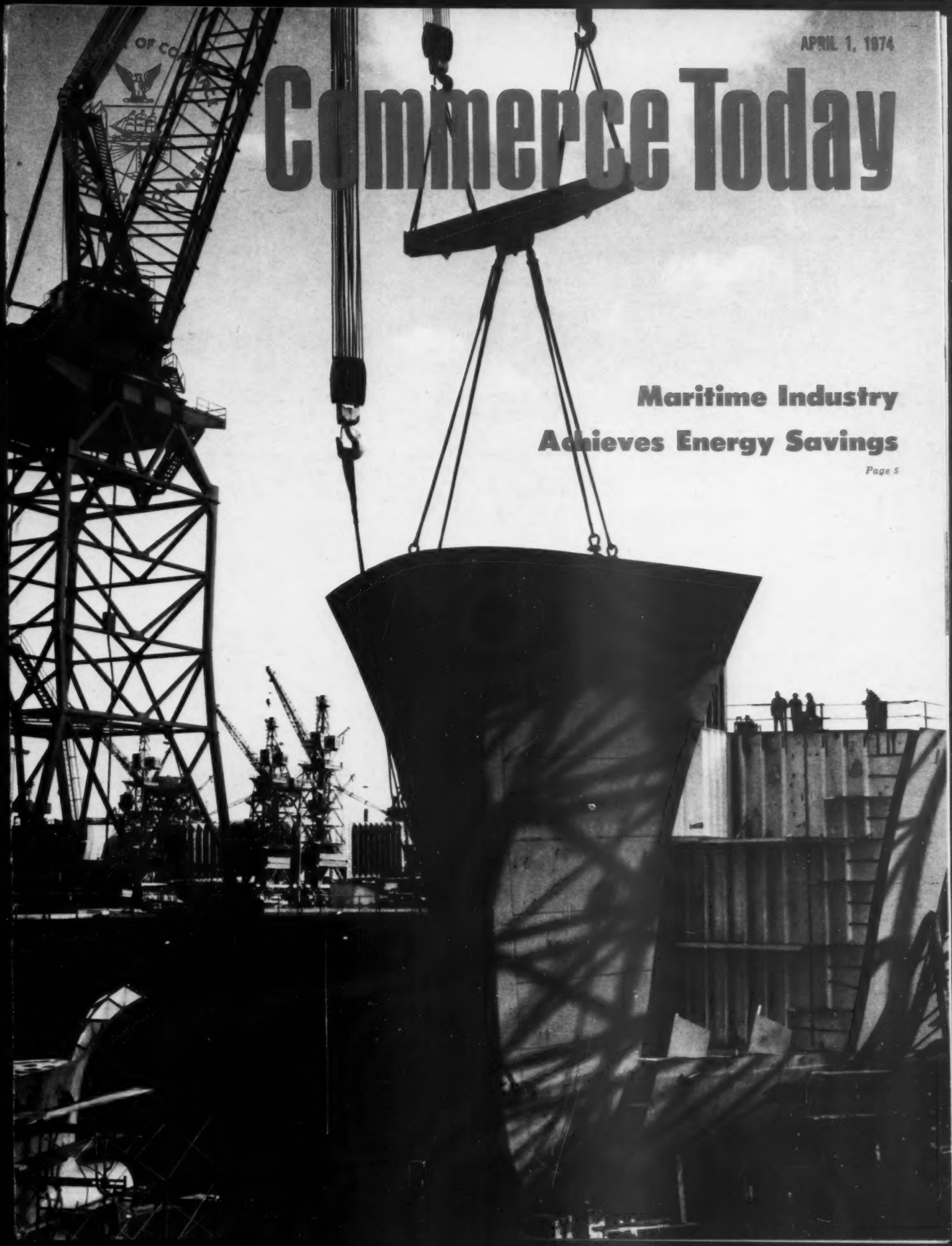
APRIL 1, 1974

Commerce Today



Maritime Industry Achieves Energy Savings

Page 5

FROM THE
SECRETARY

U.S. Energy Future Can Be Bright

The embargo on oil shipments to the U.S. from the Middle East has been lifted. What have we learned from that cutoff of vital oil shipments in the past five months? What should be our future course?

First, we have learned anew that the spirit of America is strong, healthy, and vigorous. Once again, we have seen the American people unite in steadfast purpose to meet an important economic challenge.

Both the consuming public and business have demonstrated a magnificent capacity for cooperation in responding to the challenge.

Our people have turned down the thermostat, lowered auto speeds, and taken many other steps to reduce fuel consumption. They have met the inconveniences of lines at the gas pumps with patience and good will.

Business, from the smallest retail shop to the heaviest industry, has moved in scores of ways to conserve energy. Our appeal for business firms to adopt an Energy Management Program received an overwhelming response. Top executives directed energy audits, set tough energy saving goals, and mounted all-out information campaigns to emphasize the critical need for energy conservation.

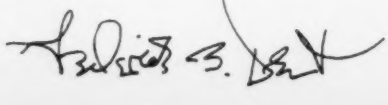
We also have seen the tremendous ability of the U.S. economy to withstand shocks and still forge ahead. American industry has once again demonstrated its basic strength, resiliency and ability to make far-reaching adjustments with imagination and speed. One day in December 1973 an automobile assembly plant was producing a line of heavy cars, and 51 days later it has been completely retooled, is fully manned, and is producing a completely different line of small cars. Such demonstrations of managerial and engineering capability, repeated scores of times in many industries, have helped to minimize the disruptive effects on jobs while we work to find the long-term solutions to the energy problem.

What should be our future course?

First, continue the conservation momentum we have already gained and add to it the longer range measures possible in transportation, construction, and manufacturing operations. We must thoroughly understand that the lifting of the embargo is not a license to return to the old and wasteful ways that characterized our uses of energy in the past. That day is gone forever. The new higher level of energy prices will keep our conservation ethic economically justified.

Second, we must push vigorously ahead with President Nixon's Project Independence to give our country the capacity to be independent of foreign energy supplies by 1980. We should expand our use of coal, both in its present form and processed into gas and liquid fuel. We should step up nuclear plant construction; develop the energy potential of the outer continental shelf; expedite completion of the Alaskan pipeline; encourage production of shale oil; and de-regulate the price of natural gas at the wellhead.

If we take advantage of our opportunities, our energy future is bright. Under President Nixon's firm leadership, we have come through the crisis with renewed confidence in our strength as a people and a nation. Let us now turn the energy challenge into an opportunity to reach new heights of prosperity and well being for all our citizens. One thing we do know: the American spirit is equal to the task.



Commerce Today

Vol. IV, No. 13, April 1, 1974

2 Economic Highlights

Reeling from the shift in buyer preference, the automobile industry is regaining a mood of cautious optimism during this transition when small car sales outrun production.

4 Newsmemo

5 Maritime Conservation Effort Pays Energy Bonus To Industry

New energy-savings programs and techniques are being reported by industry to the Maritime Administration which serves as a clearing-house in publicizing industry's efforts to make the most with the least fuel usage.

7 From China With Skill—MESBIC Founder Wants To Share Her Talent

One of the nation's most successful businesswomen, Mrs. Rosa Leong, receives MESBIC license for her new Chinese Investment Co. of California, the first federally-licensed minority venture capital company formed by a woman.

8 Police Productivity Means Grief For Lawbreakers, Relief For Taxpayers

Growing nationwide expenditures for police services is prompting local forces to improve productivity by applying business techniques. Result ultimately will affect the business community.

11 Energy Management Digest

12 Domestic Business Report

U.S. paper and board use seen hitting new highs despite tight supply outlook—Industry Highlights: Chlorine shortage should be short-lived, localized—From slump to solvency: how a Los Angeles firm overcame huge odds to strike it rich—Firms can measure results of energy-saving efforts—Project Independence seen no bar to building energy-carrying ships.

21 International Commerce Report

Analysis of 1973 U.S. world trade, by areas—Taiwan buying mission in U.S.—Results from catalog exhibitions overseas—New schedule of fees for Agent/Distributor Service—Economic Trends in Iran, Mexico, Ecuador, Upper Volta, Chile—International business reports—Commerce overseas promotion schedule—Licensing, trade opportunities.

U.S. DEPARTMENT OF COMMERCE

FREDERICK B. DENT
Secretary

JOHN K. TABOR
Under Secretary

BASIL R. LITTIN
Special Assistant to the Secretary for Public Affairs

THOMAS A. BELL
Director of Communications

RICHARD BALENTINE
Editor

CLARENCE M. ZENS
Associate Editor, International Commerce

ARTHUR McDERMOTT
Associate Editor, Domestic Business

AMERICO A. W. FAVALE
Graphics Coordinator

Staff Writers: *Douglas F. Carroll, Felix Cotten, Margaret L. Hanson, Wynola Robison.*

Published biweekly by the U.S. Department of Commerce, Washington, D.C.
Annual subscription rate $29.80 ($7.45 additional for foreign mailing, $5.75 additional for domestic air mailing). Single copy $1.15. Make checks or money orders payable to Superintendent of Documents and mail to Superintendent, U.S. Government Printing Office, Washington, D.C. 20402, or to any U.S. Department of Commerce Field Office.

All subscription inquiries and address changes should be sent to the Superintendent of Documents, at the above address. This is the central distribution agency for U.S. Government publications.
Microfiche copy available at 95 cents per issue from National Technical Information Service, Springfield, Virginia, 22151.
Other inquiries should be sent to the U.S. Department of Commerce, 14th Street and Constitution Avenue, Washington, D.C., 20230.

Contents of this publication are not copyrighted unless indicated, and if not so indicated, the articles may be reproduced in part or in full without any prior consent. The Secretary of Commerce has determined that the publication of this periodical is necessary in the transaction of the public business required by law of this department. Use of funds for printing this periodical has been approved by the Director of the Office of Management and Budget through August 31, 1976.

COVER: *Bethlehem Steel's energy conservation program at each of its seven shipyards (Sparrows Point, Md., shown here) is designed to make all shipyard employees aware of the importance of efficient energy use. Reports of such programs will be cleared through the Maritime Administration to publicize the industry's total effort. Story begins on Page 5.*

The Automobile Industry In Transition: Small Car Sales Outrun Production

Economic Highlights is prepared by Dr. Sidney L. Jones, Assistant Secretary of Commerce for Economic Affairs.

The automobile industry, reeling from the most massive shift in buyer preference in its history, is regaining a mood of cautious optimism. Although uncertainty about the permanence of the switch to smaller cars lingers, the U.S. industry is converting to greater production of economical vehicles.

Automobile production plummeted during late 1973 as manufacturers cut back schedules or closed down assembly plants for standard-size units in order to adjust inventories to buyer demand. By yearend, inventories of finished automobiles had increased to a record 1.8 million units. With plant conversions to small, intermediate, or specialty car lines increasing, output can be expected to rise, hopefully in time to aid dealers as they adjust inventories for the spring selling season.

Notwithstanding substantial sales declines in the fourth quarter, total retail car sales in 1973 reached 11.5 million units—an all-time record; the previous record was 10.9 million cars sold in 1972. So far in 1974, sales of new domestic cars have dropped to a seasonally adjusted annual rate of 7.7 million units in January of 1974 from 10.2 million units in January 1973. During the same period, imports also have been affected by the downward slide, dropping in January 1974 to an annual rate of 1.7 million units from 1.9 million a year ago.

For 1974, industry analysts forecast total retail car sales in the 9-10 million unit range, a decline of approximately 10 to 20 percent from the record 1973 levels. The 1974 forecasts take into account a slight increase in the sales of imports. The share of the market claimed by imports may rise above the 15.5 percent achieved last year, but not as far as would have been the case before imports became more expensive through currency realignments. The lifting of the oil embargo by the oil-producing countries also may soften demand for the imported cars.

As an example of one company's efforts to respond to changes in the marketplace, in late December a major manufacturer undertook to convert an older assembly plant for standard-size cars to the production of compact cars. Within 51 days after laying off 3,500 production workers, the plant was back in operation and is currently employing 3,600 workers. As a result of such conversions, the proportion of industry-wide production of the lower-priced small cars increased from about 22 percent in February 1973 to nearly 40 percent in February 1974.

Manufacturers have taken measures in addition to increased production schedules for small cars to bolster lagging sales. The installation of six cylinder and small V-8 engines, for example, has been stepped up; luxury model compact and intermediate car lines have been emphasized; promotion programs have been focused on the fast-selling compacts and sub-compacts; and cash rebates have been offered to dealers to stimulate sales of the standard-size cars. For the longer term, manufacturers are investing more in research to develop improvements for better component and product fuel economy.

Total factory sales of trucks and buses approached three million units in 1973, up 21.8 percent from the previous year. Truck sales are expected to be down moderately in 1974, with most of the decline in light trucks—which are often purchased instead of passenger cars. Sales of medium trucks will be less affected by the decline if business investment continues at projected levels. Sales of heavy trucks are likely to remain relatively strong in 1974.

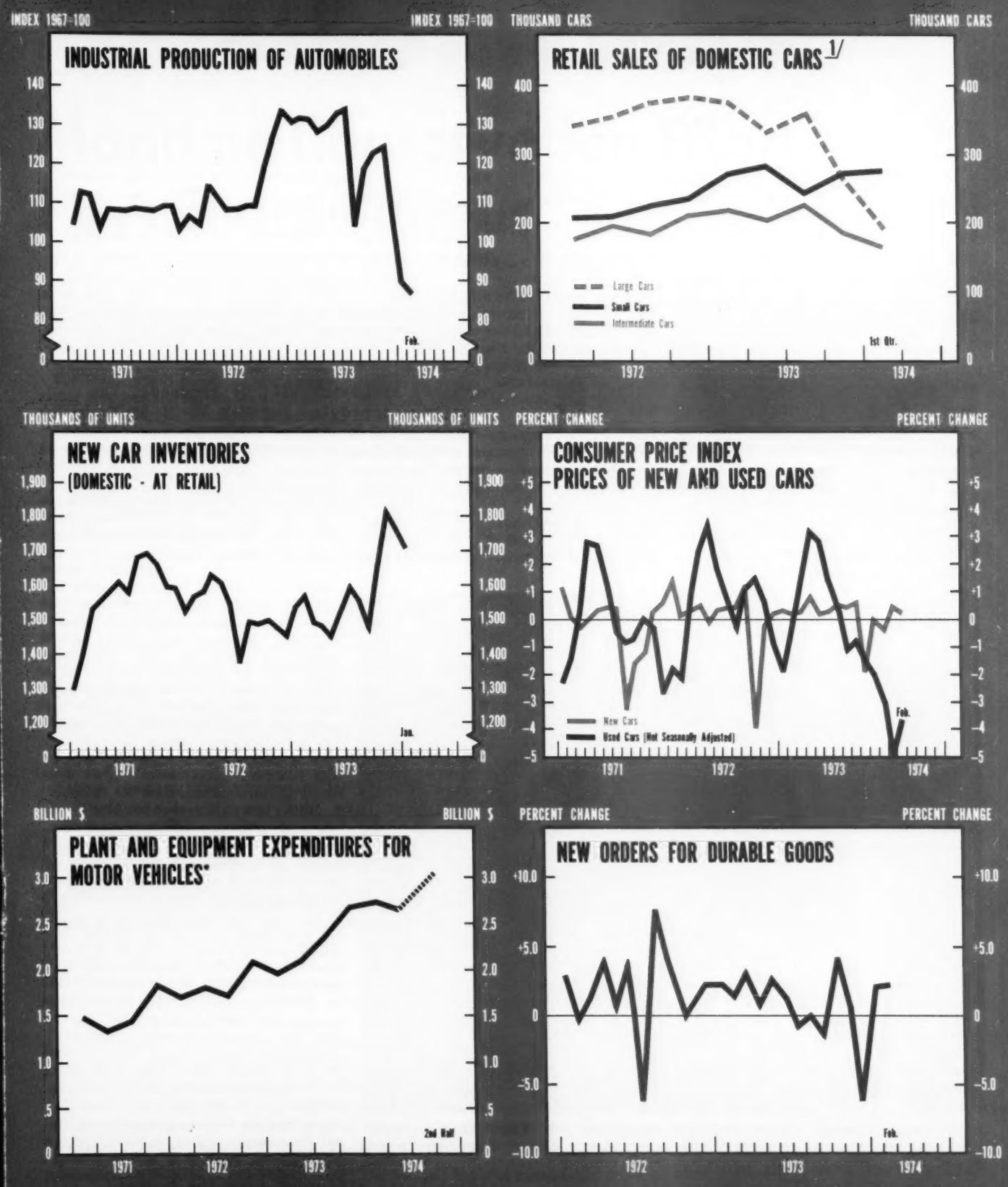
Expenditures for new plant and equipment by the motor vehicle industry have shown a steady uptrend in recent years and are expected to increase substantially again this year, particularly as the automobile companies accelerate their retooling programs to expand small car production capacity. This is the basic transition problem, but for the industry's suppliers around the country, materials shortages and capacity limitations create some bottlenecks.

Although mandatory wage and price controls were lifted from the automobile industry in December 1973 and the demand for small cars currently exceeds the supply, a lower-priced product mix and rising costs will tend to keep industry profits below record 1973 levels. On the positive side, the absence of heavy overtime schedules, increased sales of optional equipment, and a fairly strong market for trucks should help sustain earnings.

Assuming that the economy gains momentum during the second half of 1974 and that the gasoline situation stabilizes, automobile sales are expected to improve from the current depressed levels. By new-model introduction time in the fall, the industry may know whether the American motorists' switch to smaller cars was only a tactical response to the gasoline shortage or the continuation of a long-term trend signalling the end of the big car era.

Other economic data

New orders for durable goods increased 2.3 percent in February, following a 2.2 percent January increase. There were substantial increases in the capital goods and non-defense industries.



Annual Rates

1/ Retail sales for the first quarter of 1974 are based on two months' data.

All data seasonally adjusted except prices for used cars

Newsmemo

DISC is rolling along toward the 5,000-company mark. The export-incentive program, which provides tax deferrals to DISCs--Domestic International Sales Corporations--now has about that many participants. Treasury Department's latest figure, to Feb. 1, shows that 4,929 firms have decided to form DISCs.

International marketing, investment and engineering managers, meet the new IDB News. This free monthly newsletter of the Inter-American Development Bank provides useful summaries of the credit and technical cooperating activities of the bank. Over its 14 years the institution has provided about $6.3 billion in development loans for 771 projects in industry, agriculture, power, transport, education, tourism, urbanization, etc. To be placed on the mailing list write Office of Information at the bank, 808 17th St., N.W., Washington, D.C., 20577.

Economic/commercial careers with the U.S. Foreign Service attracted 43 percent more applicants this year than before. More than 13,700 persons took the written exam for Foreign Service in December. This is about 2,500 more than have taken any previous exam in the 50-year history of the modern U.S. Foreign Service. Now the oral exams will be held and about 185 new officers will be appointed. Information about the December 1974 exam will be available in June from Board of Examiners for the Foreign Service, P.O. Box 9317, Rosslyn Station, Arlington, Va., 22209.

Improved quality of patent examinations is the goal of a new review program instituted this month at the U.S. Patent Office. A sampling of 3 percent of the patents issued will get an independent review outside normal channels. Reviewers will concentrate on: 1) patentability of claims in view of the prior art and other evidence discovered by the examiner; 2) compliance with current examining procedures; 3) correctness of classification and field of search. Newly-appointed Patents Commissioner C. Marshall Dann believes this review will bring more uniformity to examinations and better-trained examiners, he told a recent Boston Patent Law Association meeting.

Can the makers of products sold to the Federal Government develop spinoffs that will benefit the citizen-consumer? That is the question on which an industry-government workshop symposium will be focused. The sessions, scheduled for May 29-31 in Washington, will be sponsored by Commerce's Experimental Technology Incentives Program (ETIP) and the General Services Administration's Federal Supply Services. For more information, write Dr. Jordan D. Lewis, Director, ETIP, A-724, National Bureau of Standards, Washington, D.C., 20234.

Minorities are playing a game of catch-up in the business world, and presently are a million firms behind in their efforts to achieve parity in business ownership, states Alex Armendaris, Director of Commerce's Office of Minority Business Enterprise. Speaking to a group of Phoenix businessmen, Armendaris said that "under current conditions it will take until 1990 to double the present number of minority businesses, and that growth rate just isn't good enough."

Computed on the National Income Accounts basis, Federal Government receipts exceeded expenditures by a whopping $5 billion, seasonally adjusted, during the fourth quarter surplus of $4 billion, and brought the balance sheet for the entire year into the black by $1 billion, compared to deficits of $15.9 billion for 1972 and $22.2 billion in 1971. The NIA Statement of Government receipts and expenditures differs in several respects from the unified budget, and is integrated with the rest of the national income and product accounts. Unlike the unified budget, it excludes financial transactions such as loans; it also records several categories of receipts and expenditures on a timing basis different from the budget.

Maritime Conservation Effort Pays Energy Bonus To Industry

Representatives of every segment of the maritime industry—vessel operators, shipyards, port and terminal operators—have expressed unified support for an energy conservation ethic that will insure the nation's competiveness in waterborne commerce.

The industry will report all new energy-saving programs and techniques to the Maritime Administration, which will serve as a clearinghouse in publicizing the entire industry's effort to make the most with the least fuel usage.

The pledges of continued cooperation in energy-savings were made at a meeting in Washington last month of major maritime trade association leaders with Robert J. Blackwell, Commerce's assistant secretary for maritime affairs.

Groups represented included the American Association of Port Authorities, Lake Carriers' Association, American Institute of Merchant Shipping, American Maritime Association, American Waterways Operators, National Association of Stevedores, Offshore Marine Service Association, Shipbuilders Council of America, Transportation Institute and Water Transport Association.

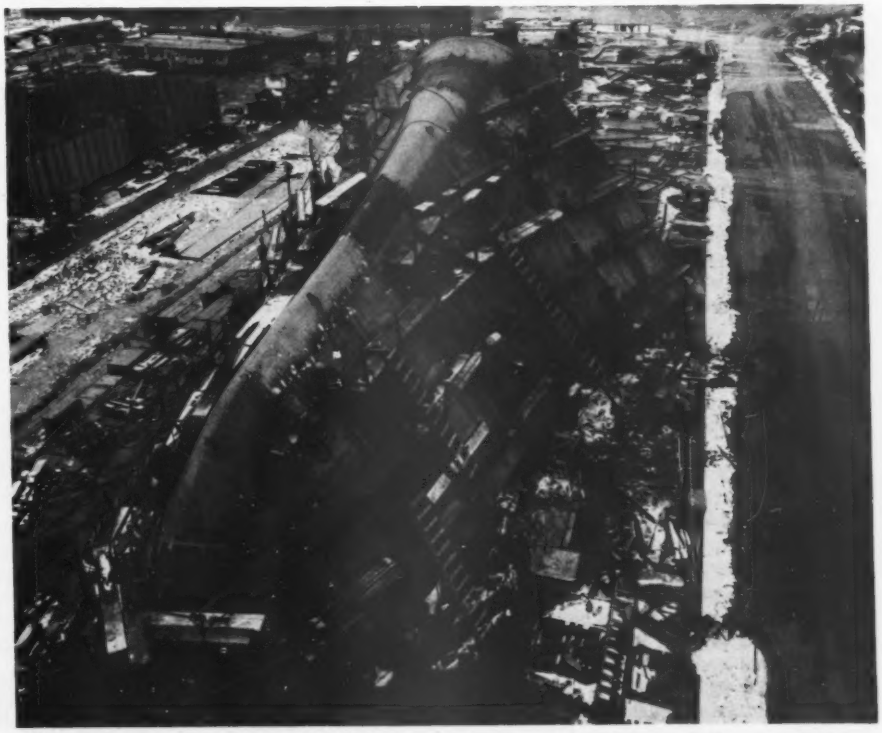
Seeking to assure coordination of the maritime industry's future efforts to promote energy conservation, Blackwell said "although the shortages are abating, a continued need for conservation still exists . . . (but) not necessarily mandatory slow vessel speeds because they can have disastrous economic impact. All conservation actions must be weighed with a sense of reality, balancing costs against the benefits achieved."

He added that the rapid increase in the cost of fuels—now four to five times higher than pre-October-war prices—necessitates energy cost management procedures to keep the maritime industry competitive with its domestic and foreign competitors.

"In short," Blackwell asserted, "we must find ways to reduce energy consumption primarily to control the impact of higher fuel prices on the shippers we serve."

Many of the 500 maritime firms Blackwell called on recently to report on their energy management conservation programs and the resulting savings have given the Maritime Administration detailed descriptions of their efforts. The feedback received to date indicates that:

- The cultivation of the energy management ethic has given rise to impressive cost reductions which have further solidified the support the industry's top corporate executives are giving to energy conservation. Promotion of energy consciousness has been given top priority in every firm reporting to Maritime.
- Programs are organized in such a way to permit the maximum input of "smart ideas" on energy conservation from all levels of the corporate structure and the industry.
- The programs range from the simplest poster campaigns to the most highly integrated management-labor conservation committees.
- The degree to which careful documentation and development of mathematical tools of measurement enhances the accuracy of energy requirement forecasts is significant. Some companies have produced simulation models to aid in the reduction of fuel consumption.
- Engineering operating records are being scrutinized to determine the areas of operation which have inefficiencies deserving attention. In addition, energy balance sheets have been constructed to further zero in on areas which require improvement.
- Every measure is being taken to assure maximum operating performance of equipment. Ships at sea, in one fleet, are ridden alternately by the company's senior chief engineer who inspects and evaluates all the



SAVINGS IN SHIPBUILDING—*Bethlehem Steel Corp. is one shipbuilder reporting energy conservation techniques already in use. This bow section of a new vessel is assembled on a platen area prior to being swung into place on the ship under construction in the building basin at Bethlehem's Sparrows Point, Md. shipyard.*

SPEEDUP PROCESS—*Not all energy savings are being made at sea; studies are under way to reduce cargo loading delays and speed turnaround time, which result in inefficient ship usage. This is the Seatrain terminal in San Juan, Puerto Rico.*

operating characteristics of the particular engineering plant and advises on improvements of plant efficiency.

● Areas of maintenance, ordinarily neglected, have been spotlighted in efforts to improve fuel consumption.

Shipper, shipbuilder

Selected summaries of reports to the Maritime Administration—from a ship operator, Chevron Shipping Co., and a shipbuilder, Bethlehem Steel Corp.—illustrate typical efforts of two segments of the maritime industry to affect sound energy management programs.

Chevron's B. H. Wilson reports that most of the firm's 60 ships were found to operate at significantly different quality levels of performance. He added that "we found many situations that could be improved upon."

In the energy audit phase of the shipping operator's program, Wilson said "we found many ships did not operate with minimum excombustion air although all of our newer ships were provided with continuous electronic flue gas analyzers and all ships were provided with some type of flue gas analyzer . . . The flue gas analyzers often were being ignored and in some cases had been allowed to deteriorate.

"We found ships which did not use their automatic controls effectively. We found fuel meters that were inaccurate or missing entirely . . . We found that many crews operated with oversimplified ideas such as 'the more main condenser vacuum the better'. They did not consider that the energy consumed in pumping more water and reheating cold condensate can more than offset the advantages of the slightly more efficient main turbine operation at more-than-designed vacuum. Likewise, more than necessary amounts of energy were being consumed for ventilating fans, parallel pump operations and air conditioning."

The Chevron Shipping official emphasized that these ships were performing their primary function of delivering cargoes rapidly and safely, but they were not as energy-efficient as they might have been.

While Chevron shipping has placed strong emphasis on cargo heating because of the large potential for fuel savings, other ship operators can find similar opportunities to save fuel in fuel heating and dry cargo handling, Wilson stated.

In an effort to get "more cold facts and warm communications," Wilson said data recording forms were prepared, tested on a few ships, modified as appropriate and then sent to all ships as necessary to obtain reliable facts and open up communication channels. A chief engineer rode the ships and personally sold the energy management program.

Followups and expansions of the program include studies. Special engineering studies are in progress to determine the optimum hull cleaning procedures and frequencies to reduce drag. A ballasting and trim study is under way to determine optimum conditions for vessel operation. New procedures are being developed to maintain cleaner boilers, both on the fire and water sides. A team of ship and shore managers is studying terminal operations to reduce delays and reduce turnaround time which affect overall ship efficiency.

Regarding speed versus fuel efficiency, Wilson concluded that the most efficient speed for a typical tanker with respect to fuel consumed per ton-mile is roughly 75 percent of normal design speed.

Noting that Chevron Shipping already has evidence that its ships can be operated more efficiently, Wilson concluded:

"A few months ago we had a ship that reduced its fuel consumption by 1,700 barrels at the same time it reduced its voyage time by one and a half days between Sumatra and the West Coast, by utilizing revised cargo heating procedures and other efficiency measures."

Increased awareness

Bethlehem Steel's energy conservation program in effect at each of its seven shipyards is designed to make all shipyard employees aware of the importance of efficient energy use. The firm's energy committee and energy control committee are part of intensive efforts to increase awareness of energy developments, to comply with federal energy programs, to purchase energy in the most appropriate fashion, to utilize self-produced energy and purchased energy in the most efficient manner, and to conserve energy in all ways possible.

Bethlehem's efforts include:

► Frequent meetings of each shipyard energy committee to supervise programs appropriate to their particular yard.

► Maintenance of logs of the consumption of various types of fuel in order to permit the monitoring of consumption rates.

► Reduction in yard and office space heating, and reduction in both internal and external lighting.

► Regular inspections for steam and utility leaks. Prompt repair of all leaks and repair or replacement of faulty steam traps and lines.

► Frequent boiler testing and adjustment to improve combustion efficiency.

► Rescheduling of operations to take advantage of off-peak power availability.

► Installation of fuel-saving devices wherever feasible.

► Emphasis at all levels of management on energy efficiency and conservation. Management interest is evidenced by posters at strategic locations, by articles in employee magazines and newsletters, and by regular personal contact.

The National Industrial Energy Conservation Council has urged the publication of many industry efforts and techniques so that others in the same or related industries might find something adaptable to their firm's energy-saving effort.

From China With Skill — MESBIC Founder Wants To Share Her Talent

Soon after she arrived in this country in 1948 the government of her homeland—China — changed hands, and Mrs. Rosa Leong, not knowing if she could ever go home again, began "learning everything there is to learn so I am qualified to participate" in the U.S. free enterprise system.

Last month, as one of this nation's most successful businesswomen, Mrs. Leong accepted a license for her Chinese Investment Co. of California, the first federally-licensed minority venture capital company in the nation to be formed and wholly capitalized by a woman.

"Once I didn't know what a two-by-four was," said Mrs. Leong, a Los Angeles building developer and construction contractor. "Today I feel I can compete with anyone, and I want to help others."

In a ceremony in Commerce Secretary Dent's office, Mrs. Leong was presented the Minority Enterprise Small Business Investment Co. (MESBIC) license by Thomas S. Kleppe, administrator of the Small Business Administration.

"We (the MESBIC) may be very slow in moving, but what we get into will be healthy and you will be proud of it," she said, exuding confidence, as she accepted the license.

Secretary Dent noted that Mrs. Leong's MESBIC is also the first to be developed within the Chinese community.

Put up $300,000

She has provided $300,000 of her funds to capitalize the MESBIC, and will serve as its president and chief operating officer. Her niece, Mrs. Linda Nyi Stone, also of Los Angeles, is treasurer and secretary of the new investment firm.

Mrs. Leong obtained a Master's Degree in Education at the University of Southern California in Los Angeles, and in 1950 was married to Walter Lincoln Leong, a tax attorney. In 1955 she opened Southern Industries, a real estate investment and development company of which she is president. Her husband died in 1960.

From those early years in a new country when everyone laughed at the pretty Chinese lady who wanted to be a construction contractor, she developed the philosophy that "nothing is impossible, it just depends on how bad you want it, how hard you want to work for it, and how many sacrifices you want to make to get it."

"Unless we raise the consciousness of the people we are trying to help, just to give them money or technical assistance and advice is not the answer," she says. "We have to elevate them to accept their position in the economic structure, create a feeling that they can make it if they try. Nothing is impossible."

Mrs. Leong considers her biggest accomplishment inspiring others through her activity. She started in business by building structures that were leased to the post office as branches. Now she builds apartments and office buildings for some of the nation's best known corporate tenants.

One of her most difficult moments came in 1960 after her husband died and she discovered bonding companies would not write surety bonds for a Chinese lady's construction company. She finally managed to get bonded for one building but lost another. But those things are changing now, she reports.

"Services of our MESBIC will be a little different from the others," she continues.

"From the little waiter in the restaurant to some very important people—each is treated as a God-given person," she continues. "I'm involved in the MESBIC program because I like to contribute my share to help those who need help and deserve it."

Licensed by SBA and strongly encouraged in the private sector by Commerce's Office of Minority Business Enterprise, MESBICs provide a source of venture or expansion capital for firms comprised of socially or economically disadvantaged individuals, which include black, the Spanish-speaking, American Indians, orientals and others.

Alex Armendaris, director of OMBE, noted that since the MESBIC program was developed in 1969, 66 MESBICs have become operational, with a total capital investment from private sources of $27,854,529. With leveraging of SBA funding and bank financing this amount could trigger more than a half billion dollars in loans and equity investments to businesses operated by socially or economically disadvantaged individuals.

MESBIC STARTED—*Mrs. Rosa Leong displays MESBIC license awarded by Small Business Administration with Alex Armendaris (center), director of Commerce's Office of Minority Business Enterprise, and C. Mack Higgins, SBA Assistant Administrator for Minority Enterprise.*

Police Productivity Means Grief To Lawbreakers, Relief To Taxpayer

Rather than continuing to make huge outlays on private guard forces and security equipment, U.S. businessmen might prefer to help improve the productivity of their regular police forces. Not only could they improve their plant security at no expense, but they might even keep their tax bills from getting out of hand.

For a police department to add one more round-the-clock post actually requires adding five officers to the force at a cost that could exceed $80,000 per year. To add a patrol car with two occupants 24 hours per day could result in $175,000 annual expense for the community.

Costs such as these are reflected in growing nationwide expenditures for police services. In response to mounting fears of personal harm, loss of property and public disorder, municipal police expenditures increased 70 percent between 1967 and 1971. Total federal, state and local outlays for police services hit $6.2 billion in 1971.

These fiscal facts of life have forced many communities to realize that there are limits to how far a police force can be expanded. Rather, they must make more effective use of the personnel and equipment now available. That means increasing their productivity.

And it is here that a businessman, in his role as concerned citizen or in many cases as an elected local government official, can make his presence felt in applying the techniques that brought him success in business to the process of creating a more business-like police force.

The volume, patterns, and methods of crime have changed over the past years faster than police departments have altered their operations to keep up with the change. And, consequently, there is great potential for diverting departmental resources from marginally productive activities to higher leverage programs of active and anticipatory crime prevention.

Police services are not as easily defined as producing a television set or an egg-beater. In general, higher police productivity means keeping the department's budget constant while improving performance, or keeping performance constant while cutting the budget.

Police activities, like most governmental functions, often defy exact measurement because there are no precisely laid out goals which apply to every department. While everyone agrees on the broad objectives of police work, the specific activities that should be undertaken are often subject to debate. Some major police goals, such as crime deterrence, simply cannot be measured.

The most common data used for judging overall police performance are crime rates reported annually in the FBI's *Uniform Crime Reports*. While covering only reported crime, which may amount to as little as 25 percent of crime actually committed in some jurisdictions, these figures can provide some idea of overall trends in police performance from year to year and from jurisdiction to jurisdiction.

Human resources account for 80 to 90 percent of present-day police costs. New technology, new strategies and even substantial increments of money will make little difference if the police do not also have the right personnel.

The most important productivity ingredient is the motivation of a department's personnel. Whether productivity means more valid arrests, a greater community feeling of security, or quicker response to calls, a motivated officer is certain to be more productive than an unmotivated one.

Selection and assignment is therefore a crucial and sensitive activity. Poor selection criteria can prevent a department from getting the right kinds of people. Poor assignment procedures can strip a department of the skills it needs where it needs them. The hidden costs of poor performance of either activity are enormous. For example, a department's ratio of field to support personnel can be so poor that, while it is heavily manned, an adequate number of men cannot be placed in the field. The problem is not one of constrained budget, but rather an example of a lack of well-thought-through assignments. Sev-

ARMCHAIR DETECTION—*Use of closed circuit television is becoming increasingly widespread, and it has been proposed to substitute for court appearances. The Kansas City police are using it for forensic laboratory testimony.*

SKY SENTRY—*In addition to helping unsnarl rush-hour traffic, helicopters also improve the response time by directing ground units.*

eral years from now a department such as this will suffer from a lack of necessary field experience in its managers.

With the problem daily assuming larger proportions, 20 top law enforcement officials and criminology experts met recently in Washington under the auspices of the National Commission for Productivity. They produced a 76-page report containing proposals for improving police productivity, many of which are listed below. While not all of the techniques are applicable to every department in the country, most of them have already been successfully tested and could be adapted profitably.

Freeing officer time

Freeing more officer time doesn't guarantee better performance, but it is a vital first step in making the force more effective. Given the rapidly rising costs of police personnel, even a small increase in the percentage of time spent on patrol activities can lead to a significant savings and, potentially, to increased productivity.

One police department halved the amount of time involved in the booking process by centralizing its operations (from 9-10 hours to 4-5 hours). The Oakland department accomplishes this same process in less than one hour. A screening process to eliminate arrests where the charges seem likely to be dropped at the first judicial test cancels out about 350 unpromising arrests per month in Washington, D.C., at a saving of from two to three hours per arrest.

Many jurisdictions are finding out that persons charged with misdemeanors are as likely to show up in court after being issued a summons as they are after a lengthy booking process. So, several cities now issue misdemeanor summons instead of employing actual arrest and incarceration, at a great saving of patrolman's time.

Requiring that arresting officers be present throughout arraignment, even though they have little to do most of the time, can be avoided by substituting sworn affidavits or complaints for actual testimony.

Many departments are taking trained policemen off such jobs as switchboard operator, chauffeur, or collecting parking meter coins, and replacing them with civilian employees. In larger cities about 20 percent of police personnel are civilians; but the percentage varies from 6 to 37 percent, indicating that some are making more strenuous use of non-sworn personnel. Oakland, California, for instance, replaced 29 officers who had been compiling checklists in the Criminal Investigations Division with non-sworn personnel. The officers are now on street assignments.

On a much larger scale, the New York Police Department plans to replace 2,100 sworn officers in clerical positions with non-sworn personnel over a two-year period, at an estimated saving of $20 million per year. As part of the program, a New York precinct is operating with a full-time non-sworn precinct manager, whose duties include identifying positions that can be filled by non-sworn personnel. The precinct formerly had 50 officers performing non-patrol tasks such as complaint processing, switchboard operating, and payroll tabulation. Now 23 non-sworn personnel and 18 officers are performing the same work. Thus 32 officers have been released for street duty (an increase of about 12 percent in the precinct patrol force) at a saving of about $400,000 per year in salaries with no apparent loss in quality of service.

New York has also combined the functions of arrest processing officer and cell attendant into a single position. Since both were 24-hour-per-day jobs, five patrolmen were released for street duty at each precinct implementing the change.

On the other hand, there are many specialties for which an officer is not trained, and in which a civilian professional could perform more efficiently and effectively. Patrolmen should not have to type reports when a stenographer can do the job in half the time. Computer experts, management analysts, equipment specialists are often well worth the extra expense in time saved or better service delivered.

After maximizing the available manpower resource from the total potential manpower pool in the patrol division, actually increasing patrol productivity requires using that manpower in the most effective manner.

A major component in productivity is reducing the response time of a police unit to a citizen's summons. Dispatching delay is being reduced by increased reliance on computerized systems.

Washington, D.C. and New York City also are trying to determine in which directions travel time is the fastest. In Washington the studies revealed a significant difference in the time required to travel north-south as opposed to east-west. Such data, when used by dispatchers, can cut response time.

Flexible deployment—increasing the proportion of the force on duty during high call periods and in high activity areas—clearly affects the time it takes to get to the scene of a crime.

Special units

Many departments have developed special patrol units whose efforts are specifically directed at street crime. These units often operate in plainclothes and as decoys to seek out potential crime situations rather than rely upon random observations. Examples of this type of unit are Kansas City's Tactical Unit, New York City's Anti-Crime Squad, Washington, D.C.'s Special Operations Division, and Denver's SCAT (Special Crime Attack Team). Kansas City's Tactical Unit has about half of its men in plainclothes, while New York's Anti-Crime Unit is entirely plainclothes.

New York City's unit has been highly

NIPPED IN THE BUD—*Crime deterrence is impossible to measure, but it's one of the police department's most vital functions. This Washington police officer is investing a few minutes of time to make her job easier years from now.*

effective in producing quality felony arrests. The average Anti-Crime Squad member makes 18 arrests per year, 83 percent of which are felonies, compared to three felony arrests per year for the average patrolman. In addition, about 73 percent of the squad's arrests result in conviction, which is more than twice the rate of arrests made by the average patrolman. The Denver Police Department reports that patrolmen assigned to its SCAT Program make about 10 felony arrests per year, considerably more than the average patrolman.

The purpose and value of special units, of course, is to attack a specific problem or to employ a specific resource. It is a recognition that the added or marginal value of putting a few more regular patrolmen on the force may not be as great as using that manpower in a different and more productive fashion.

To integrate efforts of different units where there is conflict or where more cooperation would be beneficial, interchange of personnel is useful in building mutual support. When you understand the other fellow's job, he's much easier to work with.

Specific objectives

Specific objectives are necesary for any innovation. In fiscal 1973, one police department spent $102,000 on 18 crime-prevention programs. As far as could be determined, none of them had specific objectives. As a result, it was difficult to evaluate the worth of each program or to identify where further improvements could be made.

On the other hand, St. Petersburg, Florida, and Oakland, California, are two departments that set, and can measure progress toward, objectives in crime-prevention programs. Using its own funds, St. Peterburg is trying to reduce residential burglary citywide over the next 10 months by 20 percent. Through individual security checks, lectures, burglary-prevention brochures, radio and TV "Prevention Tips" broadcasts, a Burglary Security Ordinance already drafted, and efforts by the city's Citizens' Crime Committee, it hopes to measure a reduced incidence of this crime.

Oakland, also using local funds, tried to reduce burglary 10 percent in a selected census tract over a three-month period by persuading residents and merchants to keep lights burning in front and back all night at a cost of about two cents per night. They managed only a three percent reduction.

Several other special programs that could be successfully implemented around the country include:

- *Volunteer manpower.* In New York City and Los Angeles County, special men and women reserves, paid only $1 per year, are trained for specific work performed on call. They serve as a second man alongside uniformed officers in radio patrol cars; do special duty at fairs, parades, and youth programs; assist in traffic and crowd control; and provide special skills such as electronics, photography, and horsemanship.
- *Citizen eyes and ears.* In Oakland, the Citizens' Crime Prevention Committee, which helps the department involve the community in crime-prevention activities, assisted in organizing the Radio Alert Program. By 1971 this comprised 31 companies with more than 1,700 radio-equipped vehicles such as tow trucks, taxis, utility trucks, and ambulances. Drivers are instructed to call in if they notice crimes in progress or unusual occurrences. In one month, the department received 80 calls, some of which resulted in successful apprehensions.
- *Block security.* In New York City, the municipal government is setting aside $5 million to provide technical and financial support for local residents and groups willing to work together to make their blocks and homes safer. One resident in each block is to serve as block security officer. After receiving special training, he will be responsible for designing and implementing the block security program and will act as liaison with the department.
- *Identification of property.* "Operation I.D." is being used in many communities. This encourages residents, using a pointed steel-tipped vibrating pen, to mark their valuable possessions with either a driver's license or social security number to assist in proper identification and speedy return of stolen items.

Non-crime related services can account for up to 70 percent of a patrolman's time, and some departments have been highly successful in turning many of these functions over to other governmental agencies.

In Miami Beach, parking meter duties were turned over to the Finance Department, freeing about 40 patrolmen (12 percent of the total force) for street duties. Also in Miami Beach, officers were spending a great deal of time filling out accident forms. An analysis of the form revealed that much of the information was not needed for police records, but was used solely by insurance companies. The form was revised to include only police business.

Sunnyvale, Calif., is conducting a comprehensive security audit of all commercial and multi-dwelling apartment complexes. The program's unique feature is that firemen conduct the security checks while gathering information about fire hazards. A separate file is maintained for burglarized premises.

Although better use of personnel lies at the heart of the productivity problem, improved equipment can also play a major role. In Miami Beach the police department found that a considerable amount of time was lost when a car radio broke down. The car would be out of service for the entire time the radio was being repaired. The department, therefore, installed replaceable radios so that when one breaks down a working one can be inserted in its place.

Accepting complaint information over the phone or by mail rather than dispatching an officer can also improve effectiveness. St. Petersburg, Florida, has a program of accepting crime reports over the phone. Followup surveys showed that 97 percent of citizens receiving this service were satisfied.

The use of closed circuit TV for court appearances could save considerable time. The Kansas City, Missouri, Police Department is presently using it for forensic laboratory testimony. They intend to expand its use to arrestee processing and other court appearances as soon as its use is approved by the courts.

Major roadblock

Most of the means of improvement are drawn from programs and practices that are known to the Advisory Group to have been tried, tested, and proven useful in operation. With the many new and useful ideas available, why have not more police departments adopted them for their own use?

Most police departments are organized in what might be termed a "bottom-up" hierarchy that requires all new entrants to start at (or near) the lowest rank and move in a step-by-step fashion up the organizational ladder. Promotion from within is the cornerstone of most police personnel policies, rather than encouraging lateral entry from other police forces.

The bottom-up structure places in leadership position men who have demonstrated excellent operating skills and abilities. Skill as an operating policeman, however, does not necessarily also insure skill in management or introducing innovation.

Copies of a summary of "Opportunities for Improving Productivity in Police Services" are available from Mrs. Nancy Hayward, National Commission on Productivity, 2000 M St., NW., Washington, D.C. 20506.

Energy Management Digest

RESPONSE TO APPEAL...Seven thousand firms have responded to an appeal by Secretary Dent and Federal Energy Office Administrator William Simon to adopt the energy management concept and implement conservation programs. Letters went to 43,000 firms in November. The 7,000 responding thus far have received citations for their efforts. At the present rate of return it is anticipated that the final total response will exceed 10,000 firms.

KENTUCKY PAVES THE WAY...Kentucky Governor Wendell H. Ford has signed into law the first research and development bill by a state, designed to assist the nation in solving its energy problems. With a $50 million appropriation, Kentucky will expand research to "pave the way nationally in conversion of coal to liquid, gaseous and solid fuels," the Governor says.

TESTING IN NEW HAMPSHIRE...A $6.5 million federal office building in Manchester, N.H., is expected to consume only 60 percent as much energy as a conventional office building. Scheduled for occupancy in 1976, it will have an assemblage of low-power consuming heating and cooling systems on different floors, and an extensive technical monitoring network to evaluate the savings. The greatest savings will be in space heating and cooling, and water heating.

NEW ENERGY LAB...Honeywell, Inc. is preparing a Solar Energy Mobile Research Laboratory at its Systems and Research Center in Minneapolis, supported through company funds and a grant from the National Science Foundation. Prime objectives are to collect local climatic data to be used in the design of integrated solar heating and cooling systems and to determine how solar energy heating and cooling systems can be applied to buildings in various parts of the country.

STIMULATING COAL MINING...An enlarged, modern barge terminal on the Ohio River near Shawneetown, Ill., is expected to stimulate coal mining activity to help meet the nation's energy requirements. The terminal, which received a $2,566,800 grant from Commerce's Economic Development Administration, will encourage increased shipment of low-sulphur coal from Gallatin and other southeastern Illinois counties.

NATIONAL ENERGY INDEPENDENCE...Nuclear power plants will spell the difference between national energy independence with moderate economic growth and either no growth at all or excessive dependence on foreign oil, Dr. Karl P. Cohen said recently at the University of Texas. He is chief scientist of General Electric's Nuclear Energy Division and one who worked on the Manhattan Project which produced the atomic bomb. "What is preventing the implementation of the nuclear alternative is a chaotic licensing process which permits self-appointed public defenders to delay the construction of nuclear power plants by a seemingly endless series of legal maneuvers," he said. He labelled as "exaggerated" the concern for safety among opponents of nuclear power plants.

"JOIN THE CARPOOL GENERATION"...So urges Dr. John H. Gibbons, director of Federal Energy Office's conservation unit. About 34 percent of all automobile mileage is for commuting to and from work. If the average passenger load were increased by just one person, the nationwide gasoline savings would be more than 700,000 barrels per day.

TIPS FOR ENERGY SAVERS..."Buy slightly less than a full tank of gas to prevent overflow waste and to allow room for fuel expansion," the Federal Energy Office advises..."Combine your trips with those of friends and neighbors," is another Federal Energy Office tip for energy savers.

U.S. Paper And Board Use Seen Hitting New Highs Despite Tight Supply Outlook

America's per capita consumption of paper and board products increased 18 pounds last year to a record 639 pounds, despite tight supply situations in some grades, with the nation's paper and board mills churning at essentially full capacity during the entire year.

The U.S. is by far the largest paper and board consuming nation, notes Howard Post, Commerce's commodities specialist on the pulp, paper and board sector. This country is followed by Sweden, whose citizens consumed 426 pounds each last year, and Canada, 366 pounds per person. Italy is twentieth with 68 pounds per person. Pakistanis consume only 3.5 pounds per person each year.

"The world average was about 50 pounds per person," Post says. "This says something about our consumption habits, but it also indicates the potential of the world market for paper and board products."

Production in the U.S. paper and board industry was 61.8 million tons, up from 59.5 million tons in 1972. Supplemented by substantial imports, total consumption in 1973 reached 67.2 million tons, up from 64.9 million tons in 1972.

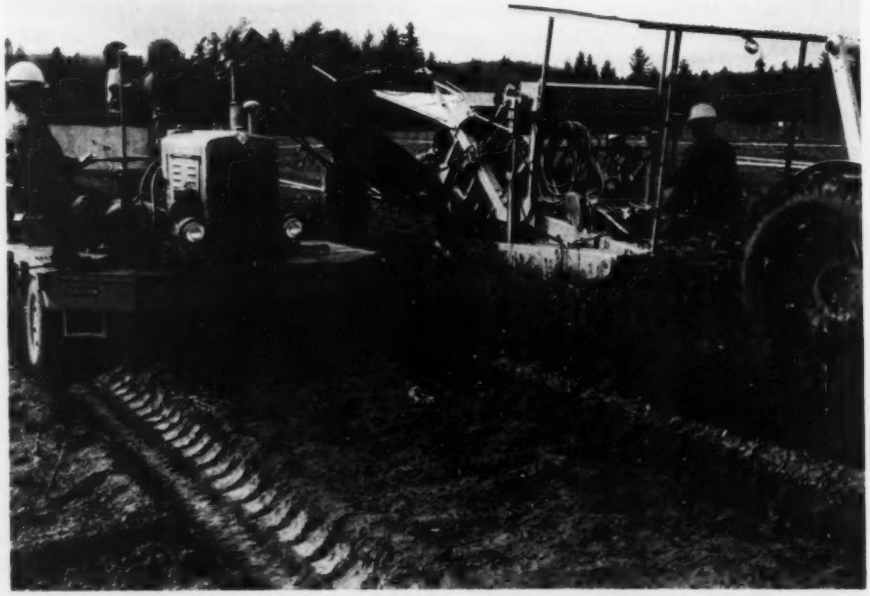
Balance still tight

It appears that the lifting of price controls last month will encourage new capacity, which could take advantage of the world market potential. But, Post reports, because of the two to three years required to install new capacity, the industry will continue on a tight balance between production and consumption.

During 1973, the tight wood pulp and waste paper supply situation somewhat restrained paper and board production. Elimination of price controls is expected to generate more wastepaper because domestic price controls will not have a ceiling and the pressure for exporting to markets abroad where wastepaper prices have been higher will be eased. More wastepaper will mean more fiber for paperboard.

Most of 1973, especially the third quarter, witnessed a tight balance between raw material supplies and end-product demand, according to the quarterly industry report on Pulp, Paper and Board.

The extremely volatile situation stemmed directly from a two- to three-year buildup of the complex interactions of cost escalations, earlier low profit levels, price controls and pressure of production and market factors. Such factors included pressures on fixed production capacity by unanticipated high demand, the tight supply situations in raw materials, and dislocations or maldistributions of paper, board and converted product supplies. The domestic supply situation, toward the end of the third quarter, tightened in a number of grades of pulp



TREE FARMING—*The Weyerhaeuser Co., which plants more than a million trees a year, relies heavily on automatic tree-lifting systems, like this, capable of delicately plucking 100,000 seedlings an hour from nursery beds for transplanting.*

FOREST MANAGEMENT—*Researchers are learning to breed faster-growing trees, better shaped trees from genetically superior parent stock. A Weyerhaeuser Co. forestry technician is shown artificially pollinating a Douglas fir.*

SUPPLY LINE—*To help its merchants maintain a steady supply of International Paper Co. papers, the firm keeps large stocks at its mills ready for shipment. Towmotors and overhead cranes can quickly rush shipments wherever desired.*

and paper as the higher world prices made export markets more attractive than the price controlled home market.

Since the first quarter of 1973, supply situations in raw materials and end products have been variously characterized as "critical shortages," "short supply" and "tight supply" situations. The broad or overall supply picture appears best described as "tight" with production, demand and apparent consumption in rather inflexible balance, and with production capacity utilized fully, efficiently, effectively and profitably for the first time in several years.

In spite of regular complaints of shortages and well-publicized assertions of catastrophic shortages from container manufacturers, publishers, printers, building paper and board converters, no business closures or failures or public discomfort due to an actual general shortage have been documented.

"U.S. business, industry, and the public, in facing tightening supply situations in pulp, paper and board, have been flexible, adaptable, imaginative, innovative, conservative in use, and cooperative," the quarterly industry report says.

Converters and customers unable to get a desired grade of pulp, paper or board have adapted to alternative grades. In addition, what may be described as a shortage by some may represent to others an inclination to overuse or wasteful use of resources, a commitment to a raw material or customized paper or board grade desirable but not essential to the end product, and a reluctance to substitute, compromise, conserve, or adjust or modify specifications or technology.

Wastepaper supply

Even with close to 1.4 million tons more of paper grade wood pulp used internally by integrated paper and board mills during the first nine months of 1973 than during the same 1972 period, some virgin pulp oriented mills turned to direct and de-inking grades of pulp substitutes (wastepaper) to relieve pressures on virgin pulp supplies or to meet increased fiber requirements of paper machines running close to rated production capacity.

With paper and board demand up significantly, secondary fibre-based mills also increased production and their wastepaper requirements increased. Thus, domestic consumption of wastepaper during the period, according to the Census Bureau, increased 683,000 tons over 1972 figures to reach approximately 9.1 million tons (equalling about 12.1 million tons on an annual basis).

Meanwhile, net exports of wastepaper, over always-low imports, increased 170,000 tons, with total exports reaching 484,000 tons. The net increase in exports was one-fourth the size of the domestic consumption increase.

Wastepaper is paper and paperboard of numerous kinds and their converted products reclaimed from industrial, commercial or household waste, or from manufacturing and converting operations, for recycling into new paper and board commodities.

But only 20 percent of the total paper and board consumed annually is actually recovered and recycled.

Wastepaper, or paper stock, generally considered a secondary fiber source (wood pulp being the primary fiber) is utilized in the manufacture of many grades of writing, printing, tissue and industrial papers. However, at least 70 percent of the 12 to 13 million tons used annually goes into paperboard for packaging and construction papers and board. And, about 3 percent, or up to 400,000 tons, is used in newsprint manufacture.

"A seemingly realistic view," the quarterly industry report concludes, "is that the wastepaper supply is out there somewhere, to be exploited when the price is right and the long range demand justifies capital investment in collection, packing and distribution programs."

Industry Highlights

Chlorine Shortage Should Be Short-Lived, Localized

(Industry Highlights is prepared by the Office of Business Research and Analysis, Bureau of Domestic Commerce.)

The shortage of chlorine to treat drinking water is anticipated to be a short-lived phenomenon that will be most intense durthe summer of 1974. However, the shortages are expected to be highly localized.

Chlorine is used in manufacturing a variety of products and in treatment of water and sewage. Because the chemical is widely used in diversified manufacturing processes and because of its importance in the treatment of water and waste, the chlorine tight supply situation is receiving considerable attention at the highest levels of industry, municipalities and the federal government. Although only an estimated 5 percent of total chlorine requirements are needed for drinking water the essential nature of its use for this purpose makes the shortage situation important. The other ninety-five percent is accounted for by industrial uses not associated with water treatment purposes. Industrial demands for chlorine are far ranging and include such areas as plastic materials, chlorinated solvents, and aerosol propellants.

Demand should rise

With the exception of 1971, U.S. chlorine production since 1962 has increased every year. Overall the average annual growth rate has been 6.9 percent.

On the basis of historical trends since 1962, it is expected that demand for chlorine will rise by about 5 to 6 percent in 1974, given an increase in real GNP for 1974 of about one percent. Demand for chlorine for all purposes for 1974, therefore, should range between 10.8 and 10.9 million tons. For all of 1973 it is estimated that chlorine production and consumption were around 10.3 million tons.

Requirements of chlorine for water treatment, which amounted to about 450,000 tons in 1973, an increase of about 10 percent from 1972, are expected to increase by approximately 10 percent during 1974 compared to 1973. The peak demand for water treatment is during the period June-September. This demand may be 20-30 percent above average monthly requirements. However, chlorine is not an easily stored product so that it is not possible for municipalities to accumulate a larger inventory in anticipation of this peak seasonal demand. Municipalities are dependent on the repackers, and eventually on the primary producers who will have to meet these higher seasonal needs primarily out of current production. Hence, it is during the summer months that the problem will be most acute.

There is generally a lead time of about two and two-and-a-half years between the decision to proceed with the construction of a new chlorine plant and the actual start-up of production at this plant. Hence, at this time it is possible to get a reasonable fix on new capacity for 1974 and 1975.

At the close of 1973, chlorine capacity stood at around 10,900,000 tons. By the start of the second quarter of 1974, capacity should have increased to 11,142,000 tons. Since, over an extended time, industry traditionally can operate at around 95 percent of theoretical capacity, this would place effective capacity at around 10.6 million tons. This figure may be on the high side because new plants may need some break-in period before they can attain maximum efficient production.

Additional capacity should come on stream by the third quarter of 1974 and by the start of 1975 productive capacity should be up to 12,730,000, or about 17 percent above 1973 levels. Consequently, by 1975 effective productive capacity should be able to satisfy all of the foreseeable demands now estimated for chlorine, including that amount needed for water purification.

Materials Shortages Spur April 9 Meeting Of Experts In Chicago

Two dozen commodities experts will address a National Materials Shortages Briefing April 9 in Chicago.

The briefing, sponsored by the Illinois State Chamber of Commerce in conjunction with the U.S. Departments of Commerce and Interior and selected trade associations, will answer questions of businessmen and manufacturers plagued by uncertainty and lack of authoritative information about scarcities, what causes them, what the future holds and how managers can better plan production schedules.

Secretary of the Interior Rogers C. B. Morton, luncheon speaker, will discuss the outlook for the nation's natural resources supplies.

Industries to be covered in the briefing are textiles, organic chemicals, cement, plastics, lumber and wood products, inorganic chemicals, rubber, nonferrous metals, paper and allied products, and iron and steel.

Commerce Department participants will include Seth Bodner, deputy assistant secretary for resources and trade assistance, a panelist in textiles; David Rossee in plastics; Winfield Sunderland in inorganic chemicals, and James McElroy in lumber and wood.

Cooperating associations are The Aluminum Association, American Textile Manufacturers Institute, Lumber Trade Association of Greater Chicago, Malaysian Rubber Bureau, National Forest Products Association, American Paper Institute, Portland Cement Association, National Association of Purchasing Management, Society of the Plastics Industry, Inc., Steel Services Center Institute, and the Industrial Economics Research Institute of Fordham University.

U.S. To Trade Jet Fuel For Canadian Crude Oil

The United States will export 54,000 barrels of jet fuel and 16,000 barrels of residual fuel oil to Canada in return for some 140,000 barrels of crude oil.

The arrangement calls for a U.S. firm to export the jet fuel and the residual oil within the next 60 days. In exchange, Canada will make available to the United States 140,000 barrels of Canadian crude oil over and above present shipments. The increased Canadian delivery to the U.S. will coincide with the export of the jet fuel to Canada.

Secretary of Commerce Frederick B. Dent stated that the net petroleum product gain from the transaction would be approximately 70,000 barrels of crude oil in favor of the United States.

The United States is not historically a large exporter of jet fuel. The overall first quarter U.S. export quota for jet fuel to all destinations is 96,449 barrels, not including the 54,000 barrel arrangement. Exports of jet fuel in 1973 were 825,000 barrels. During the January-February 1974 period, licenses were issued for 75,227 barrels.

The United States produces about 300 million barrels of jet fuel annually.

Utah U. Offers Master's Program For Businessmen

The University of Utah is offering businessmen the chance to obtain a Master's degree without having to neglect the day-to-day management of their firms.

The Executive M.B.A. Program being offered by the University's College of Business will feature innovative weekend scheduling to accommodate the busy executive. Enrollment is restricted to applicants with business experience and the program can be completed in less than two years.

For a brochure detailing the program, write the Graduate Studies Office, College of Business, University of Utah, Salt Lake City 84110, (801-581-7098 or -7099).

Corporate Profits Dipped In Fourth Quarter; Dividend Payments Gained

Before-tax book profits of corporations declined by $900 million to a seasonally adjusted annual rate of $128.8 billion in the fourth quarter of 1973, according to preliminary estimates by Commerce's Bureau of Economic Analysis.

Manufacturing profits declined about $1 billion. Profits also declined in the transportation, communication, and public utilities group, and in wholesale trade. Income remitted from abroad in the form of dividends or branch profits increased substantially, and profits of financial institutions continued to rise, although at a slower pace than earlier in the year.

Cash flow topped '72

Fourth quarter corporate profit tax liability is estimated at $56 billion at a seasonally adjusted annual rate, compared to $57.6 billion in the third quarter. After-tax earnings increased $500 million, to $72 billion. Dividend payments, at $29 billion, increased $900 million. Retained earnings decreased $400 million, to $43 billion. With corporate capital consumption allowances rising $2 billion, corporate cash flow reached $116.7 billion, $1.6 billion above the third quarter rate.

The book profits measure includes gains or losses due to the difference between the replacement cost of goods taken out of inventory and the cost at which they are charged to production. When BEA measures profits for national income purposes, such inventory gains or losses are excluded through an "inventory valuation adjustment".

Fourth quarter inventory gains were $1.5 billion below the third quarter rate. As a result, the national income measure of pretax corporate profits rose $600 million to $112.6 billion at an annual rate according to BEA.

Full-year figures

For the year 1973, before-tax corporate profits amounted to $126.4 billion, $28.4 billion above 1972. Tax liability for the year is estimated at $55.9 billion, $13.2 billion above 1972. Net dividend payments rose $1.8 billion to $27.8 billion. Undistributed profits reached $42.7 billion, $13.4 billion above the 1972 level.

Inventory profits rose $10.4 billion in 1973 and the national income measure of pretax profits reached a total of $109.2 billion, up $18.1 billion.

Additional data will appear in the March issue of the *Survey of Current Business*, the monthly magazine of Bureau of Economic Analysis.

The Survey is available from the District Offices of the Department of Commerce or from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, at an annual subscription price of $34.45 including weekly supplements; single copy $2.25.

'Wired City' Concept Discussed With Japan Mission; Project Set

A Japanese mission on visual communications has discussed the "wired city" concept being developed in this country with officials of Commerce's Office of Telecommunications preparatory to planning a pilot project in Japan.

The U.S. "wired city" envisions the use of slow scan or print-out two-way terminals that would permit consumers to conduct a variety of business from their homes, including legal aid, banking, library access, catalog shopping, doctor's analysis, adult evening courses, and payment of bills.

Two-way information services to home terminals hold out the prospect of substantial energy savings.

The Japanese project, which would provide similar services, is backed by six Japanese computer manufacturers, an electronics manufacturer, two software manufacturers, and a model town developer. They have formed a non-profit organization to develop the system, which also has the backing of the Japanese Government, banks, and electronic and cable firms.

The Japanese project is planned for the Higashi Ikomia area. A second project, being developed in the Tama area, is separately funded, and under control of a separate division of the Seikatcon Eizo Joho System Development Association, the parent organization for both projects.

The 20-member Japanese mission also discussed broadband and cable television activities in the two countries with telecommunications officials. The Japanese are studying the various equipment systems, procedures, policies and methods of developing, marketing, regulating and funding broadband communications in this country.

A seven-volume U.S. study entitled "A Survey of Technical Requirements for Broadband Cable Teleservices" (No. OT 73-13) has recently been published by the Office of Telecommunications. Copies are available from the Superintendent of Documents, U.S. Government Printing Office, for $9.60.

Telecommunications Treaties Agreements Report Is Ready

The first known attempt at compilation, classification, summarization, and synthesis of all international bilateral and multilateral treaties and agreements pertaining to telecommunications has been published by Commerce's Office of Telecommunications.

"United States Treaties and Other International Agreements Pertaining To Telecommunications" encompasses 342 treaties and agreements, 317 of which are bilateral, to which the U.S. was a party as of January 1, 1973.

The report is available for $2.15 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Project Independence Seen No Bar To Building Energy-Carrying Ships

Asserting that the nation's energy program will "dovetail with the maritime program," Henry B. Turner, Commerce's assistant secretary for administration, has said "energy-carrying ships being built under President Nixon's maritime program are fully compatible with Project Independence."

Turner reviewed the task of Project Independence in an address at a recent launching of a ship built by National Steel and Shipbuilding Co. in San Diego.

Project Independence, says Turner, raises an important question: If the United States is determined to achieve self-sufficiency, is it wise to spend federal funds to assist in the development of American flag tankers, liquefied natural gas carriers, and offshore oil terminals?

"The answer is yes," the Assistant Secretary asserts. He explains that Project Independence is not intended to terminate this nation's imports of foreign energy.

"The President wants our nation to embark on a course of attaining energy self-sufficiency, but he is not calling for an isolationist policy," Turner points out. "Rather, he wants the United States to be in a position of being able to exert leverage on the supply and pricing of foreign energy, and he wants to make certain that no foreign producer of energy resources can have a stranglehold on the economy of the U.S."

Currently, 86 large merchant ships aggregating nearly six million deadweight tons are under construction or on order in American shipyards. This has a contract value of $3.5 billion and represents 200,000 man years of work for shipyard workers and employees of marine supplier industries.

Dent Lauds Industry's Fair Packaging Effort

Secretary of Commerce Frederick B. Dent strongly commends industrial efforts to comply with provisions of the Fair Packaging and Labeling Act, even though compliance is on a voluntary basis.

The Act, which is administered by the Commerce Department, calls for a reduction in the number of different package sizes and more uniform labeling to provide consumers with better shopping comparisons.

Dent cited examples of the progress being made:

- Prior to the 1966 Act there were 57 different package sizes for toothpaste; now there are five.
- The number of different-sized containers for adhesive bandages has been reduced from 37 to 10—a 73 percent drop.

Market surveillance activities were begun last year by the Commerce Department's National Bureau of Standards. Products are divided into three groups and data will be collected for each group every third year. For the current report, fifteen product categories were checked by state and local weights and measures officials in five jurisdictions, and initial results indicate a high degree of compliance with voluntary standards.

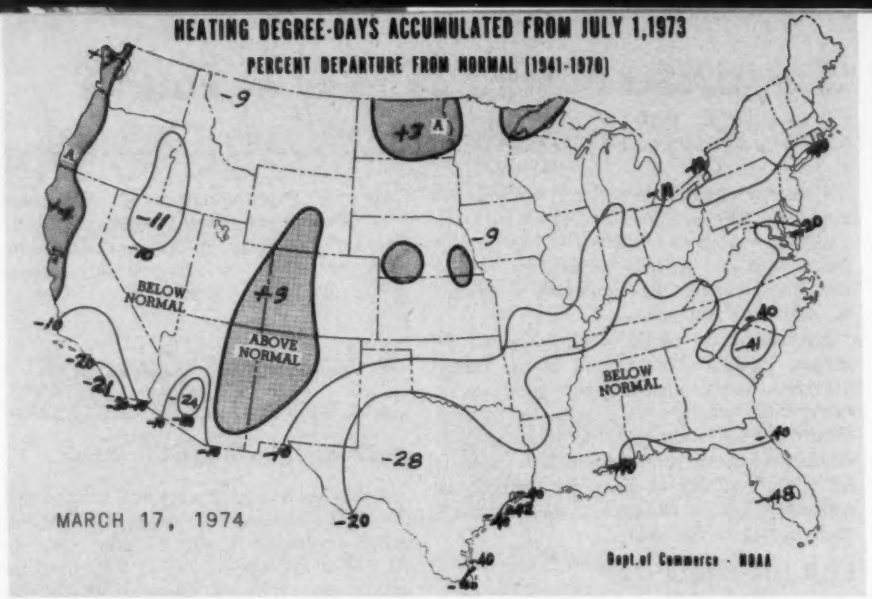
The report also noted that the effort to reduce proliferation has resulted in the establishment of package quantity standards for 44 product categories since the beginning of the program. This is more than 80 percent of the total products subject to the Act. Seven package quantity standards were established as Voluntary Product Standards and 37 were established informally by manufacturers.

During fiscal 1973, five additional states adopted comprehensive packaging and labeling regulations based on the Model State Packaging and Labeling Regulation. This brings to 24 the number of states that have adopted the Model Regulation, which is fully compatible with the Fair Packaging and Labeling Act and provides for control of packaged goods not subject to the Act.

Those states which adopted model regulations last year were Maine, Maryland, Ohio, South Carolina and Wisconsin. Kansas City, Kansas, adopted similar local regulations. Arizona, Florida, Kansas, Michigan and Virginia are considering adoption.

The Commerce report also noted that the National Conference on Weights and Measures adopted a Model State Open Dating Regulation. The National Conference is made up of state and local weights and measures officials who meet annually under sponsorship of the Bureau of Standards.

Copies of the Department of Commerce report are available from the Office of Weights and Measures, National Bureau of Standards, Washington, D.C. 20234.



WARM PICTURE—*Shaded areas had colder-than-usual weather during the past winter.*

Businesses Can Measure Results Of Heating Fuel Conservation Drive

American businessmen, in their homes as well as in their offices and factories, have responded vigorously to the energy crisis. Thermostats have gone down, storm windows have gone up, insulation has been added, cracks have been sealed, and work schedules revised . . . and money has been saved as well as precious fuel supplies.

But how much extra money do U.S. businessmen have in their pockets due to their heat-saving efforts, and how much would have been saved anyway because of the unusually mild winter?

The National Weather Service, an agency of Commerce's National Oceanic and Atmospheric Administration, has devised a simple method for determining how much heating fuel would have been saved had there been no energy crunch at all. The difference between that figure and actual fuel consumption is an individual's reward for energy conserving efforts.

Heating engineers developed the concept of the heating degree-day as a measure of coldness and fuel consumption early in the century. They discovered that when the daily mean temperature is 65 degrees Fahrenheit or higher most buildings require no heat to maintain an inside temperature of 70 degrees. The number of heating degree days during a particular 24-hour period is calculated by subtracting the mean temperature for the day from 65.

Each degree of mean temperature below 65 degrees is counted as one heating degree day. The accumulation of degree-days over a period of time gives a measure of the actual fuel consumption in an area.

The accompanying table lists the heating-degree-day accumulations between July 1, 1973 and March 17, 1974 at more than 200 weather stations through which the Weather Service takes the nation's temperature. The table also lists, rounded to the nearest percent, the extent to which this year's accumulation varies from last winter and from the average accumulations for each area over the 30-year period from 1941-70.

Thus, if an area's heating-degree-day total is 17 percent below that of a year ago, an untreated structure's fuel usage should have been down 17 percent. If a treated structure in the same area's consumption was down 30 percent, the energy conservation measures can be credited with 13 percent of the saving. For those who have records going back several years, perhaps the 30-year average would yield a more accurate comparison.

Since different parts of the country have different normals, the same percentage values could have totally different meanings in terms of actual fuel savings. For example, New York City recorded 903 heating-degree days during January, 117 degree days below normal, which represents a 12 percent saving. The Corpus Christi, Tex., total of 264 degree days was also 12 percent below the usual January level, but this was a saving of only 40 heating degree days.

Also, the weather seemed to be milder around the major metropolitan areas. Since a heavier proportion of heat users is concentrated in these areas, this resulted in an additional overall fuel saving.

Finally, these figures are the estimated savings in fuels used for heating only. Requirements for cooking, hot water heaters, and other uses are fairly constant.

Portrait Of A Mild Winter

Station	Heat degree days	% variance from 1941-70	% variance from 1972-73	Station	Heat degree days	% variance from 1941-70	% variance from 1972-73	Station	Heat degree days	% variance from 1941-70	% variance from 1972-73
Aberdeen, S. Dak.	7075	−1	+6	Fort Wayne, Ind.	4803	−7	−2	Orlando, Fla.	395	−41	−19
Abilene, Tex.	1873	−21	−37	Fort Worth, Tex.	1656	−24	−32	Parkersburg, W.Va.	3508	−15	−7
Akron-Canton, O.	4377	−14	−4	Fresno, Cal.	2143	−6	−14	Pendleton, Ore.	3880	−9	−14
Albany, N.Y.	5530	−2	0	Galveston, Tex.	657	−42	−50	Peoria, Ill	4839	−6	−6
Albuquerque, N.M.	3808	+3	−7	Glasgow, Mont.	6928	−5	0	Philadelphia, Pa.	3697	−10	−5
Allentown, Pa.	4271	−12	−8	Goodland, Kan.	4898	−2	−10	Phoenix, Ariz.	1084	−24	−23
Alpena, Mich.	6287	−6	−3	Grand Island, Neb.	5320	−1	−4	Pittsburgh, Pa.	4207	−15	−7
Amarillo, Tex.	3014	−16	−27	Grand Junction, Colo.	5169	+9	−7	Pocatello, Ida.	5455	−3	−11
Apalachicola, Fla.	729	−43	−33	Grand Rapids, Mich.	5289	−4	−4	Portland, Me.	5404	−9	−9
Asheville, N.C.	2836	−22	−12	Great Falls, Mont.	5839	−3	−4	Portland, Ore.	3880	−9	−15
Astoria, Ore.	4067	+5	+6	Green Bay, Wis.	6177	−6	0	Providence, R.I.	4338	−10	−5
Atlanta, Ga.	2007	−27	−21	Greensboro, N.C.	2885	−11	−11	Pueblo, Colo.	4309	−4	−14
Atlantic City, N.J.	3596	−13	−3	Greenville, S.C.	2352	−17	−13	Quillayute, Wash.	4615	+7	+4
Augusta, Ga.	1760	−24	−15	Harrisburg, Pa.	3886	−12	−7	Raleigh, N.C.	2379	−23	−19
Austin, Tex.	1189	−26	−40	Hartford, Conn.	4673	−10	−5	Rapid City, S.D.	5528	−5	−9
Bakersville, Cal.	1629	−15	−17	Hatteras, N.C.	1580	−32	−19	Red Bluff, Cal.	2349	+4	−14
Baltimore, Md.	3625	−10	−5	Havre, Mont.	6622	−8	0	Reno, Nev.	4365	−7	−15
Baton Rouge, La.	971	−38	−35	Helena, Mont.	6192	−4	−13	Richmond, Va.	2819	−18	−10
Beaumont, Tex.	996	−30	−48	Houghton Lake, Mich.	6259	−6	−3	Roanoke, Va.	3025	−18	−13
Beckley, W.Va.	3789	−18	−11	Houston, Tex.	1012	−25	−42	Rochester, Minn.	6525	−4	−6
Billings, Mont.	5373	−7	−13	Huntington, W.Va.	3226	−18	−15	Rochester, N.Y.	4997	−8	−2
Binghamton, N.Y.	5323	−9	−8	Huron, S.Dak.	6299	−6	−1	Rockford, Ill.	5308	−7	−2
Birmingham, Ala.	1888	−26	−28	Indianapolis, Ind.	4030	−15	−9	Roswell, N.M.	2749	−17	−16
Bismarck, N.D.	7616	+3	+7	Int'l Falls, Minn.	8263	−3	0	St. Cloud, Minn.	7111	−3	−4
Boise, Ida.	4247	−10	−11	Jackson, Miss.	1531	−27	−28	St. Louis, Mo.	3939	−4	−7
Boston, Mass.	4162	−8	−7	Jacksonville, Fla.	836	−33	−22	Salem, Ore.	3764	+2	−5
Bridgeport, Conn.	3914	−10	−13	Kalispell, Mont.	6132	−9	−8	Salt Lake City, Utah	4629	−5	−11
Buffalo, N.Y.	5167	−7	−3	Kansas City, Mo.	4206	−5	−9	San Angelo, Tex.	1494	−28	−39
Burlington, Iowa	4847	−7	−6	Key West, Fla.	41	−34	−33	San Antonio, Tex.	1118	−24	−36
Burlington, Vt.	6121	−4	−6	Knoxville, Tenn.	2446	−21	−19	San Diego, Cal.	896	−21	−4
Brownsville, Tex.	377	−40	−58	LaCrosse, Wis.	5876	−5	−5	San Francisco, Cal.	2317	+3	−2
Burns, Ore.	5385	−4	−7	Lake Charles, La.	1008	−28	−39	Sault Ste. Marie, Mich.	7091	−1	+1
Cairo, Ill.	2986	−13	−16	Lakeland, Fla.	374	−42	−36	Savannah, Ga.	1138	−37	−21
Caribou, Me.	7500	−1	−7	Lander, Wyo.	6036	−3	−20	Scranton, Pa.	5020	−3	−3
Casper, Wyo.	5891	0	−10	Lansing, Mich.	5414	−4	−5	Seattle-Tacoma, Wash.	3716	−6	−6
Charleston, S.C.	1205	−39	−29	Las Vegas, Nev.	2308	−1	−15	Sheridan, Wyo	5846	−4	−9
Charleston, W.Va.	3261	−17	−10	Lewiston, Ida.	4180	−5	−7	Shreveport, La.	1712	−14	−23
Charlotte, N.C.	2377	−17	−17	Lexington, Ky.	3297	−19	−9	Sioux City, Iowa	5331	−9	−7
Chattanooga, Tenn.	2467	−21	−25	Lincoln, Neb.	5324	+1	−3	Sioux Falls, S.D.	6117	−6	−6
Cheyenne, Wyo.	5477	−2	−12	Little Rock, Ark.	2309	−24	−21	South Bend, Ind.	4524	−15	−7
Chicago, Ill.	4802	−6	−4	Los Angeles, Cal.	1072	−16	+3	Spokane, Wash.	5281	−3	−1
Cincinnati, O.	3811	−11	−8	Louisville, Ky.	3160	−21	−12	Springfield, Ill.	4311	−9	−9
Cleveland, O.	4285	−15	−8	Lubbock, Tex.	2388	−24	−33	Springfield, Mo.	3437	−13	−15
Columbia, Mo.	4098	−6	−9	Lynchburg, Va.	3109	−15	−10	Stockton, Cal.	2164	−8	−12
Columbia, S.C.	1402	−41	−34	Macon, Ga.	1388	−33	−24	Syracuse, N.Y.	5234	−3	0
Columbus, O.	4013	−16	−7	Madison, Wis.	5935	−6	−2	Tallahassee, Fla.	976	−34	−27
Concord, N.H.	5846	−2	−9	Marquette, Mich.	6322	−3	−5	Tampa, Fla.	402	−41	−31
Concordia, Kan.	4578	−4	−7	Medford, Ore.	3523	−9	−10	Toledo, Ohio	5053	−4	−2
Corpus Christi, Tex.	633	−29	−46	Memphis, Tenn.	2196	−24	−30	Topeka, Kan.	4326	−4	−7
Dayton, O.	4188	−11	−6	Meridian, Miss.	1387	−37	−32	Trenton, N.J.	3727	−10	−5
Daytona Beach, Fla.	482	−43	−29	Miami, Fla.	131	−36	−5	Tucson, Ariz.	1552	0	−24
Del Rio, Tex.	995	−31	−40	Midland, Tex.	1873	−22	−37	Tulsa, Okla.	2954	−10	−13
Denver, Colo.	4717	−2	−9	Miles City, Mont.	5889	−9	−8	Valentine, Neb.	5598	−6	−9
Des Moines, Iowa	5132	−9	−10	Milwaukee, Wis.	5427	−9	−5	Victoria, Tex.	744	−36	−48
Detroit, Mich.	4981	−5	−3	Minneapolis, Minn.	6457	−6	−4	Waco, Tex.	1464	−23	−40
Dodge City, Kan.	4022	−6	−15	Missoula, Mont.	5825	−7	−8	Walla Walla, Wash.	3635	−9	−13
Duluth, Minn.	7775	0	−5	Mobile, Ala.	916	−42	−37	Washington, D.C.	2842	−22	−14
Dubuque, Iowa	5774	−5	−4	Moline, Ill.	5118	−5	−1	West Palm Beach, Fla.	171	−43	−4
El Paso, Tex.	2154	−13	−15	Montgomery, Ala.	1450	−30	−26	Wichita, Kan.	3989	−2	−11
Ely, Nev.	5877	−2	−9	Muskegon, Mich.	5349	−3	0	Wichita Falls, Tex.	2041	−22	−33
Erie, Pa.	4802	−11	−6	Nashville, Tenn.	2533	−23	−16	Williston, N.D.	7457	−1	+2
Eureka, Cal.	3394	+3	+5	New Orleans, La.	869	−37	−40	Wilmington, Del.	3606	−13	0
Evansville, Ind.	3317	−17	−18	New York, N.Y.	3662	−10	−9	Wilmington, N.C.	1473	−33	−24
Fargo, N.D.	7841	+2	+3	Norfolk, Neb.	5511	−6	−7	Winnemucca, Nev.	4594	−11	−16
Flagstaff, Ariz.	5129	−8	−18	Norfolk, Va.	2302	−23	−16	Winslow, Ariz.	4081	+2	+4
Flint, Mich.	5261	−8	−1	North Platte, Neb.	5621	+2	−7	Yakima, Wash.	4625	−6	−6
Ft. Myers, Fla.	233	−50	−32	Oklahoma City, Okla.	2895	−12	−22	Youngstown, Ohio	4748	−9	−8
Fort Smith, Ark.	2681	−11	−22	Omaha, Neb.	5317	−4	−6	Yuma, Ariz.	903	−5	−19

Source: *Weekly Weather & Crop Bulletin*, which carries heating degree accumulation data throughout the year. Annual subscription $5 ($6.50 for domestic air mail) from Agriculture Climatology Service Office, South Building Mail Unit, U.S. Department of Agriculture, Washington, D.C. 20250. Make checks payable to U.S. Department of Commerce, NOAA.

Heating degree days are not reported for Alaska and Hawaii.

THE BIG MOMENT—*Bruce G. Clary (seated left), president of P&C Screw Machine Products, a Los Angeles firm employing deaf people almost exclusively, signs $1.3 million production contract as Vernon Luke (standing left) of Defense Dept., Richard Schane (standing right) of SBA and Jack Wilburn of Commerce's District Office look on.*

From Slump To Solvency: Firm Beats Huge Odds To Prosper

Take a six-employee screw machine firm managed and operated by physically handicapped personnel, throw in a poorly-equipped 10,000-foot facility, garnish with serious financial instability, add a total lack of orders, then mix in a strong commitment to help from the local Commerce District Office. Stir vigorously for a year-and-a-half, and what have you got?

Today the firm plans to enlarge its payroll to 1,000 persons, who will be working in a recently occupied 170,000-square-foot plant housing 250 pieces of modern equipment. The annual contract total is approaching $4 million.

On August 8, 1972, the Los Angeles District Office received a request for help from P&C Screw Machine Products of Los Angeles, containing the stark corporate data outlined in the first paragraph. The request was submitted by P&C's president, Bruce G. Clary, who was born deaf. All employees had severe hearing or speaking problems.

After contacting the firm and determining that its most pressing immediate need was for production contracts, District Office personnel reviewed federal procurement programs and alerted several private firms in the area of P&C's capabilities.

Before the year was out P&C had been awarded a $311,000 contract to make components for 60mm. shells by the Martin Marietta Aluminum Sales Division of Milan, Tenn., a government-owned and contractor-operated facility. The District Office helped P&C obtain a $250,000 line of credit from a material supplier and $25,000 in credit from a local bank.

With P&C producing satisfactorily on contract and its work force increased to 12 (all deaf), the District Office then contacted the Minority Enterprise Coalition of Los Angeles for assistance in restructuring P&C's accounting system and in preparing a proposal to support a requested $200,000 Small Business Administration loan.

By February 1973 new production contracts totaling $500,000 had been awarded to P&C. Five more deaf trainees had been brought aboard under a $16,000 Manpower Program grant after District Office-inspired negotiations with the Department of Labor and the National Alliance of Businessmen.

During April and May operations were expanded to a 17,000-square-foot facility as total contracts approached the million-dollar mark. Employment had risen to 30, of whom 21 were handicapped. Also during this period, the District Office learned that Martin Marietta's Torrance, Calif. Division had cancelled its ordnance facility contract with the Department of Defense, and looked into the possibility of P&C assuming the contract as well as the government-owned plant and machinery vacated by Martin Marietta.

The annual contract total stood at $3.5 million by September. The labor force was up to 46, of whom 33 were deaf.

In November the Army Ammunition Command awarded the $1,296,000 facility contract, which received final approval by the Defense Contract Administrative Services District in December. P&C, which will continue to occupy its present plant, has dubbed the operations at the new facility, where up to 1,000 deaf people will be working, 'Silent Industries.' The new plant is located on a seven-acre lot and the machinery's value tops $10 million.

Except for helping to establish a tool and die apprenticeship program, the District Office's role as coordinator of this rags-to-riches story is ended. In addition to putting a desperately ill business back on its feet, the Office helped create a significant number of jobs for a badly underemployed minority group—the handicapped.

"We hope we have established a new concept which will have a significant impact on our nation's socio-economic problems," says District Office Director Stanley Crook.

DIRECT COMMUNICATION—*Jack Wilburn (left) took a 13-week night school course in finger spelling and sign language in order to improve communications with P&C officials. Here he chats with firm president Bruce Clary as P&C's John Rees looks on at center.*

Colleges Report Increased Interest In Business, Health, Social Studies; Less In Education, Technical Fields

A large increase has occurred in recent years in the number of college students majoring in business and commercial subjects, according to a report published by Commerce's Bureau of the Census.

The report, entitled "Social and Economic Characteristics of Students, October, 1972," reveals that the number of college students 14 to 34 years old majoring in business and commercial studies jumped from 888,000 in October 1966 to 1,157,000 in October 1972, a gain of 30.3 percent.

The report, which shows several increases and declines in the number of students pursuing different fields of study, is regarded as a barometer of the widespread shifts in social trends and student interests.

During the six-year period, the number of college students increased from 5,999,000 to 8,313,000, or 38.6 percent. While the increase in the number of students majoring in business and commercial subjects was less than the overall gain, these studies were shown to be among those attracting large numbers of new students, particularly in junior colleges.

Other fields showed the following gains: biological and health sciences, 602,000 to 952,000, 58.1 percent; social sciences, 642,000 to 954,000, 48.6 percent; agriculture and forestry, 73,000 to 97,000, 30.4 percent; humanities, 620,000 to 746,000, 20.3 percent; mathematics or statistics, 236,000 to 239,000, 1.3 percent; and other fields, 461,000 to 1,740,000, 277.4 percent.

'Other fields' gain

About 25 percent of the students at junior colleges were majoring in "other fields" in October 1972, compared with 14 percent for first and second-year students in four-year colleges. The high proportion of two-year college students in "other fields," the report explains, "may in part be attributable to the wider variety of vocational education specialties available at many junior colleges."

The report shows that 1,007,000 college students were majoring in education in October 1972, a decline of nearly 10 percent below the 1,188,000 recorded in October 1966. The decline is believed due to the reduced demand for teachers resulting from the falling birth rate, which in 1972 dropped to a new all-time low of 15.6 per thousand population.

Other declines in the number of students majoring in different fields were: engineering, 534,000 to 357,000, 33.1 percent; and physical or earth science, 226,000 to 157,000, 30.5 percent.

The report reveals that most fields of specialization were filled disproportionately by members of only one sex. For example, men, representing 57 percent of all college students in 1972, accounted for 76 percent of the business and commerce majors; 73 percent of the physical sciences majors; 64 percent of the biological sciences majors; 98 percent of the engineering majors; 90 percent of the agriculture majors; and 81 percent of the law majors. Women, representing 43 percent of the college students, accounted for 73 percent of the educational specializations and 58 percent of the health study majors. About 30 percent of the women enrolled in college in 1972 were majoring in education or health fields, while only 12 percent of the men were majoring in these studies.

Blacks in big gain

A large increase has occurred in the number of Negro college students in recent years. The report shows that the number of black college students 16 to 34 years of age reached a high of 727,000 in the fall of 1972, or 12 percent of the 16 to 34 age group. In 1964, Negroes comprised five percent of all college students. There were also 242,000 persons of Spanish origin attending college in October 1972, who accounted for three percent of all college students.

For the first time, the report provides information about the number of persons 35-or-over attending school, or persons well past the usual school age who were completing unfinished degrees or training for different jobs. The report reveals that 900,000 students 35 and over were in school in the fall of 1972, 85 percent of them in college. The college group included 418,000 women and 365,000 men. About 180,000 persons enrolled in school were over 50 years of age. Nine percent of all the 9,100,000 college students and 18 percent of those enrolling beyond the fourth year of college were 35 and over. At age 40 and over women were more likely to be enrolled in school than men.

Older part-timers

Older students, the report showed, are much more likely to be attending college on a part-time basis than younger students. Persons 35 and older made up only about two percent of full-time college students, but about one-fourth of part-time college students. Full-time college attendance was found to be more likely among the older men than the older women.

In 1972, the report says, 42 percent of women 18 and 19 were enrolled in school compared with 30 percent in 1960. About 51 percent of civilian men in this age group were enrolled in 1972 compared with 48 percent in 1960.

Persons starting school in 1972 on the average can expect to spend 15 years in some form of schooling before reaching 35. The comparable figure 20 years ago was 13 years.

In 1972, 19 percent of all families with dependent members 18 to 24 years old reported incomes of less than $5,000. But only nine percent of families with members enrolled in colleges reported income that low.

Meanwhile, the report says, 27 percent of families with members of college age reported income of $15,000 or more. At the same time, 40 percent of families with dependents 18 to 24 years of age and attending college full time earned 15,000 or more. This proportion had not changed greatly since 1967, when 37 percent of families of this income group with members 18 to 24 had members enrolled in college.

While the school enrollment rates for persons 18 to 24 and just out of high school may be declining somewhat, the report says, the rates for persons over 25 increased slightly between 1963 and 1972, a change that may have been due to the increased number of veterans returning to college. For example, the report says, more than a million Vietnam veterans were receiving benefits from GI loans at institutions of higher learning during the fall of 1972, compared to about one-third that number in the fall of 1966.

Memo To Tuition Payers: Degree Now Worth $279,000

Men with college degrees, on the average, can expect to receive about three-quarters of a million dollars in income during their lifetimes, reports the Bureau of the Census. The estimated lifetime income of men from age 18 to death who completed four or more years of college was $758,000 in 1972, or $279,000 higher than those who were high school graduates.

Men who completed high school can expect to receive an estimated lifetime income of about $479,000, or $135,000 more than men who only finished elementary school.

Between 1967 and 1972, the estimated lifetime income, in terms of constant 1972 dollars of all men from age 25 to death, increased from $385,000 to $448,000, a 16 percent gain. For male, year-round, full-time workers the estimated lifetime income was $542,000 in 1972, or a 19 percent increase over the five-year period.

Copies of *Annual Mean Income, Lifetime Income and Educational Attainment of Men in the United States, for Selected Years, 1956 to 1972*, P-60, No. 92, are available for $2.10 each from the Superintendent of Documents, U.S. Government Printing Office. Washington, D.C. 20402, or from Commerce District Offices in 43 cities.

Substandard U.S. Housing Lessens; Remains Problem

The U.S. housing industry made giant strides during the 1960s, but has a long way to go before achieving its goal of providing a decent home for every American.

The proportion of "substandard" housing in the United States decreased by 45 percent during 1960-70, according to Census Bureau estimates.

A new report resulting from the 1970 Census of Population and Housing shows that some 6.4 million year-round housing units, or 9.5 percent of the 67.7 million counted, were classed as "substandard." This compares with 9.8 million or 17.3 percent of the 56.6 million units counted in 1960.

The decrease in "substandard" housing units was due to the great reduction in the number of housing units lacking plumbing facilities, which went from nine million in 1960 to 4.7 million in 1970.

The term "substandard" also includes those units with plumbing but rated as "dilapidated" by a census enumerator.

Despite the decrease in units rated as "substandard," Census estimates show that "dilapidated" housing units with all plumbing facilities increased more than 120 percent between 1960 and 1970. In 1970, almost 1.8 million units with all plumbing facilities were estimated to be dilapidated, compared to 800,000 such units in 1960. The report shows that this increase was an across-the-board one. It occurred in urban as well as rural areas, in central cities of the nation's metropolitan areas as well as areas outside the central cities, and in units occupied by both black and white renters and homeowners.

Imbalance remains

During the decade, the incidence of "substandard" units decreased by nearly 50 percent among both black and white households. However, the rate of "substandard" remains much higher for black households than for others. In 1970, one-fourth of the 6.2 million units occupied by black renters or homeowners were classed as "substandard" while about 6.8 percent of the 57.3 million units occupied by whites and other races fell into this category. In 1960, almost half of the 4.8 million units occupied by blacks fell into this category compared to about 13.1 percent of units occupied by whites and other races.

The new report shows that decreases in "substandard units also occurred across-the-board — in urban and rural areas, inside for example, less than 1 of 17 of the nation's 50 million urban year-round housing units were "substandard," while in 1960 more than 1 in 10 of the 40.4 million urban units were so rated. Similarly, in 1970, about one-fifth of the 17.7 million rural units were classed as "substandard," while in 1960 more than one-third of 16.1 million rural units fell into this class.

Copies of *Plumbing Facilities and Estimates of Dilapidated Housing* are available for $6.40 from the Superintendent of Documents, GPO, Washington, D.C. 20402.

U.S. Buyers Seeking Silent Lawnmowers

The Federal Government is using its purchasing power to reduce noise pollution through production of quieter lawnmowers.

Commerce's National Bureau of Standards, working through the Federal Supply Service, has advertised bids for the procurement of at least 10,000 mowers using specifications that would cut at least 50 percent of operating noise from current levels.

The funds will be provided by NBS's Experimental Technology Incentives Program, and will be used primarily to develop improved specifications and test methods in the power mower field.

New technologies expected from this experiment include development of novel power sources such as batteries, improved mufflers, reduced blade noise, new methods to cut grass and improved engine design.

The innovations stimulated by the experiment could move into the private market within three years after the first bulk purchase by the government.

Increased attention to noise abatement technologies are due to such developments as the Noise Control Act of 1972 and anti-noise ordinances already adopted or being enacted in local communities.

The lawnmower project, the first test for the ETIP program, is designed to explore ways in which the Federal Government can work as a more effective partner with private interests in developing and applying science and technology to strengthen the nation's economy and improve the quality of life.

Procurement tests also are being readied to encourage firms to develop and use energy conservation technologies in the manufacture of room air-conditioners, frostless refrigerators, home water heaters and kitchen ranges.

These and other programs, if successful, could stimulate innovation and help in upgrading product specifications.

In addition to testing new procurement mechanisms, ETIP is examining a number of other incentives in the fields of federal regulatory practices, public support of research and development, and the encouragement of small technology-based firms.

Calendar For Businessmen

April 3-4—Chicago—First National Health and Welfare Management Systems Conference (midwestern session), Sheraton-Chicago Hotel. Sponsor: NYU School of Continuing Education, 800 Third Ave., New York, N.Y. 10016 (212-687-8540).

April 4-5—Clifton, Ga.—Rural industrialization conference sponsored by U.S. Dept. of Agriculture. Contact Dr. R. J. Mikes, P.O. Box 1209, Clifton, Ga. 31794.

April 7-12—Chico, Calif.—Basic industrial development course, California State U. Contact American Industrial Development Council, Kansas City, Mo. (816-474-4558).

April 9 — Chicago — National materials shortage briefing. Featured speaker: Secretary of Interior Rogers Morton. Sponsors: Illinois State Chamber of Commerce, Commerce District Office.

April 14-19—Atlanta—Basic industrial development course, Georgia Institute of Technology. Contact Robert B. Cassell, Industrial Development Div., Georgia Tech, Engineering Experiment Station, Atlanta, Ga. 30332 (404-894-3843).

April 16-18—San Diego—Technology of Controlled Nuclear Fusion, first topical meeting, sponsored by the Atomic Energy Commission, the Technical Group for Controlled Nuclear Fusion, the Power Division and the San Diego Section of the American Nuclear Society.

April 18—Atlanta—Day-long conference on the interface of business and society, Business Admin. Auditorium, Georgia State Univ., 9:30 a.m.

April 22-23—New York—Seatrade Magazine-sponsored conference on the effect of the energy crisis on the future of American shipping. For information, Derek Dickins, Seatrade Conferences, 645 Madison Ave., New York, 10022 (212-832-2944).

April 29-May 1—Cincinnati—Workshop on Corporate Facilities—an Exchange of Experiences and Ideas, Stouffer's Cincinnati Inn.

June 16-18—Washington—National Coal Association 57th annual convention at Statler Hilton.

Export License Needed For Ships Sold As Scrap

A validated license is now required for export of ships purchased from the U.S. Maritime Administration for scrapping abroad. The new ruling went into effect March 14.

The exporter must identify the purchaser and give the approximate ferrous scrap content of the ship along with the terms and date of sale. A quota set-aside of 50,000 short tons will be reserved for such sales in the second quarter.

Analysis Of 1973 U.S. Trade Figures Shows Improvement In Most Areas Around World

The remarkable improvement in the U.S. foreign trade position in 1973 extended to almost all of the major areas around the world, according to an assessment of the 1973 figures by Commerce Department's International Trade Analysis Staff.

Reflecting the buoyancy of economic conditions in the United States and most other countries, U.S. foreign trade expanded sharply last year. The merchandise balance shifted from the $6.4 billion deficit of the previous year to a surplus of $1.7 billion (see story on Page 8 of Feb. 18 issue).

U.S. exports posted a record-setting advance, rising 44 percent to $70.8 billion. To a large extent, this huge increase was stimulated by accelerated rates of economic growth recorded by most of our major trading partners, although higher prices, booming demand for agricultural products, and greater U.S. competitiveness—resulting from the monetary shifts—also contributed to the gain.

Imports totaled $69.1 billion in 1973, a 24 percent increase from the previous year. Higher prices accounted for most of the import increase, however, particularly in the case of manufactured goods from industrial countries whose currencies appreciated against the dollar, and also for many primary commodities from the developing countries. In terms of volume, the import expansion was rather modest, as the demand dampening effects of increased foreign prices held down purchases. The significant slowdown in the U.S. economy after the first quarter was also a factor.

Trade with Canada climbs again

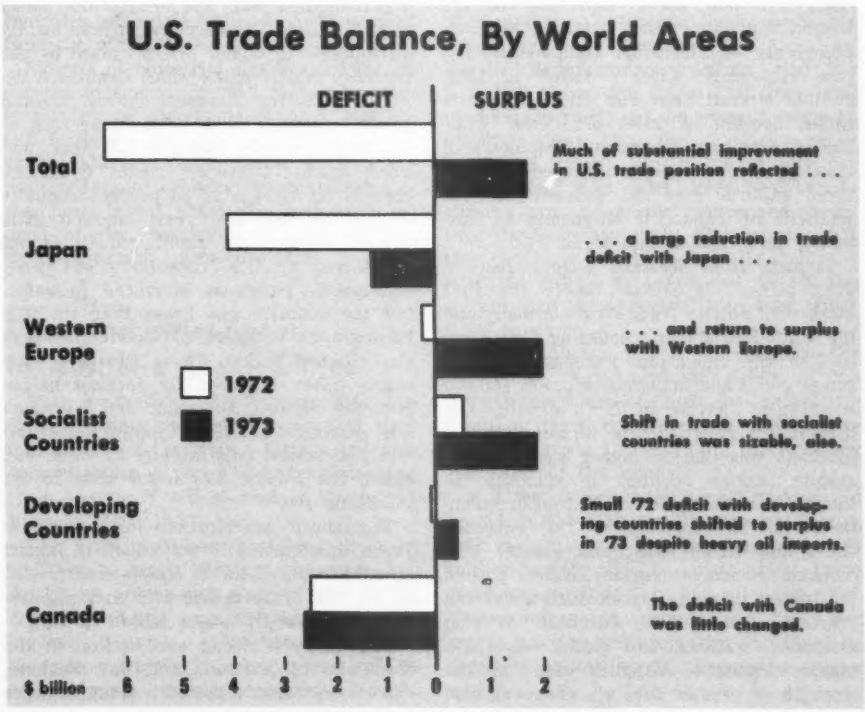
Exports to Canada rose 21 percent last year, about the same rate as in 1972, to a total of $15.1 billion. The advance in these shipments reflected the growth of the Canadian economy, which was fueled by a vigorous private sector as both personal expenditures and business investment grew strongly. Economic policy in Canada has been generally expansionary for some time, serving as an important stimulus in sustaining the boom throughout 1973. Automotive products again accounted for about one-third of the overall U.S. export gain, reflecting heavy demand for cars on both sides of the border. Machinery shipments increased one-fifth in response to the high level of capital expenditures; deliveries of agricultural machinery were especially buoyant. Steel, chemicals, and civilian aircraft also posted large gains.

Imports from Canada expanded about one-fifth over 1972 (based on data which is partly estimated because crude petroleum imports by country of origin for November and December are not available). Industrial supplies, most at sharply higher prices, accounted for about half of the increase. These purchases rose as a result of expanded U.S. requirements for raw materials and greater reliance on foreign sources for some commodities. Arrivals of crude petroleum led the advance, but the inflow of residual fuel oil was also substantially higher. Lumber entries rose, especially in the first half, before construction activity here began to slow. Purchases of wood pulp and newsprint expanded in response to heavy demand for paper in this country. Automotive entries moved 12 percent above the 1972 level, with more than half of the increase reflecting greater arrivals of parts and accessories. The rate of increase in deliveries of new cars and trucks slowed last year.

The trade deficit with Canada was little changed from the $2½ billion imbalance recorded in 1972.

Strong gains to Western Europe

Exports to Western Europe advanced by two-fifths, reaching $21.1 billion. Buoyant demand in most of the region stimulated



Agricultural Products Swell Exports To Socialist Nations

Millions of dollars

	1973	
	Value	Change from 1972
USSR, total	1,190	+648
Farm products	916	+486
Nonfarm products	274	+162
Eastern Europe, total	607	+330
Farm products	479	+287
Nonfarm products	128	+ 43
People's Rep. of China, total	690	+626
Farm products	575	+514
Nonfarm products	115	+112

the large export gains, as all major countries experienced a speed-up in the rate of economic growth. The boom in West Germany was especially strong, featuring large investment outlays and heavy export demand. U.S. exports to that country responded with a one-third increase, after declining slightly in 1972. Sales to France continued at a rapid pace as output approached capacity levels there and order backlogs developed. Despite mounting economic problems in the United Kingdom, U.S. exports to that country climbed substantially under the impact of an earlier acceleration in real growth and higher investment spending.

The step-up in European investment expenditure last year was reflected in the strength of U.S. machinery exports to the region, which climbed sharply. Sales of computers and parts, especially to the United Kingdom, posted a strong advance. Shipments of electronic components also rose vigorously. After a falloff in 1972, civilian aircraft deliveries climbed to new highs, boosted by sales of several wide-bodied passenger transports. Shipments of most types of chemicals advanced. Agricultural exports rose 66 percent on the strength of expanded shipments of soybeans, corn, and animal feeds.

Imports from Western Europe reached $19.2 billion, 24 percent above the 1972 total, with entries from West Germany and the United Kingdom accounting for nearly half of the expansion. Purchases of consumer goods and industrial supplies showed the biggest increase in terms of value, but most of the growth in the former group of products was due to higher prices. Automobile entries declined in quantity although price increases by European manufacturers, in response to the currency shifts and rising costs, and greater U.S. demand for more luxurious models pushed the import value nearly one-fifth above the preceding year's total. Purchases of gem diamonds, watches, and clocks were also higher. Industrial supplies rose on the strength of greater fuel oil, chemical, and tire imports. Greater entries of alcoholic beverages and canned hams boosted imports of foods and beverages.

As a result of the export surge, our traditional trade surplus position with Western Europe was restored. Exports to this region exceeded imports by $2 billion, compared with a small deficit recorded in 1972.

Smaller deficit with Japan

Exports to Japan jumped 67 percent to $8.3 billion. This rate of increase was three times faster than that recorded in 1972. Export gains were exceptionally steep in the early months of the year, reflecting sharply accelerated economic activity in Japan, but moderated in the latter half of 1973 as the economic boom there cooled in response to restrictive policies designed to dampen severe inflationary pressures. The rise in U.S. sales was centered in industrial supplies—largely as a result of stepped up manufacturing output and supply bottlenecks in Japan plus steep price increases for a number of commodities. Deliveries of logs and lumber posted a huge increase, to a considerable extent reflecting higher prices. Chemical exports doubled, led by sales of nuclear fuels and plastics. Deliveries of steel scrap tripled in value, although export restrictions imposed in July dampened the growth in the second half. Machinery exports, especially computers and generators, posted a large gain. Farm deliveries more than doubled in value as corn, soybean, and wheat shipments spurted.

Purchases from Japan slowed abruptly from an advance of one-fourth in 1972 to 6 percent last year; the import total stood at $9.6 billion. The deceleration was mainly attributable to higher prices caused by the currency realignments which dampened demand here for Japanese goods. Capital goods receipts were boosted by arrivals of machinery, mainly business machines, and small trucks. Consumer goods, which increased an average of 30 percent annually during the past five years, showed little change despite the rapid growth in expenditures by U.S. consumers last year. Automobile purchases advanced in value, but the quantity was lower than in 1972. Photographic supplies and sound recorders also climbed higher. These advances were nearly offset, however, by declines in imports of clothing, footwear, and television sets. Among industrial supplies, steel arrivals increased only slightly in value but, again, the volume was lower than in the preceding year.

The sharp acceleration in exports to Japan, combined with the fall-off in import growth, resulted in a sizable contraction in the U.S. trade deficit with that country, to $1.3 billion from $4.1 billion in 1972.

Buoyed by a strong acceleration in the economies of Australia and New Zealand, exports to Oceania posted a steep advance of nearly 70 percent to $1.7 billion. Sales climbed mainly as a result of large-scale investment programs—particularly in the areas of agriculture, construction, and mineral resource development. Moreover, our competitive position was considerably enhanced by the substantial depreciation of the U.S. dollar against the Australian and New Zealand currencies and those of other suppliers to the region. Machinery exports paced the increase in shipments to the area, especially construction and mining equipment, farm machinery, and computers. Deliveries of automotive parts also expanded sharply. Sales of military goods to Australia added significantly to the export total.

Imports from Oceania climbed rapidly again, jumping by 36 percent to $1.6 billion. Greater imports of beef from the area accounted for over half of the total increase. The rise in value largely reflected higher beef prices; quantities shipped here were held down by competition for limited supplies from other consuming countries, particularly Japan. Receipts of aluminum oxide increased as U.S. aluminum production expanded.

Big grain shipments to USSR

U.S. exports to the Socialist countries posted a huge advance in 1973. Sales to the USSR climbed to $1.2 billion, from $542 million in the preceding year, mainly on the strength of large wheat and corn deliveries. Nonagricultural exports to the Soviet Union also expanded, especially materials handling equipment and tractors, but on a much smaller scale. Imports from the USSR more than doubled to $214 million. Purchases of petroleum products, mainly fuel oil, advanced, as did receipts of platinum and palladium.

Exports to the Eastern European countries also expanded vigorously, led by shipments of farm products. U.S. imports from the area climbed again; entries of canned hams from Poland showed a large increase in value due to higher prices.

Exports to the People's Republic of China rose to $690 million, mainly on the basis of greater wheat, corn, and cotton shipments. Deliveries of civilian aircraft, valued at $53 million, were also made in the final months of the year. Imports, which totaled $64 million, consisted mainly of silk and cotton textiles and tin.

Developing area trade up

U.S. exports to the developing areas climbed by 44 percent to $21 billion in 1973, reflecting favorable economic conditions and increased foreign exchange reserves in these countries. Imports from these nations expanded by two-fifths to slightly over $20 billion (including an estimated amount for crude petroleum imports in November and December). The strong import expansion stemmed from growing U.S. needs for primary products and greater

Major Changes In U.S. Imports From Developing Countries

Millions of dollars

	1973 Value[1]	Change from 1972
Manufacturing exporters, total[2]	**9,233**	**+2,194**
Electronic components	513	+243
Other electrical apparatus	643	+267
Clothing	1,299	+195
Radio and TV sets	531	+135
Footwear	311	+104
Petroleum exporters, total	**5,398**	**+1,774**
Crude and partly refined petroleum	2,345	+765
Petroleum products	2,104	+765
Other developing countries, total	**4,830**	**+1,138**
Coffee	989	+319
Sugar	605	+88
Copper	210	+77
Clothing	177	+70

[1] Excludes crude petroleum imports in November and December.
[2] Includes Brazil, Hong Kong, India, Israel, Korea, Malaysia, Mexico, Singapore, and Taiwan.

inflows of finished goods, particularly from facilities affiliated with U.S. firms. Higher prices contributed importantly to the increase in both raw materials and manufactures imports.

Because of the widely differing economic characteristics of the developing countries, the commodity composition of U.S. trade, particularly on the import side, with these nations varies considerably. In the analysis of trade which follows, the economically less advanced countries are divided into three groups. The first consists of countries whose total shipments to this country were at least $200 million, of which manufactures constituted at least one-fourth. This group includes Brazil, Hong Kong, India, Israel, Korea, Malaysia, Mexico, Singapore, and Taiwan. The second group is made up of countries which export substantial amounts of petroleum to the United States. The third division includes all other developing nations; U.S. imports from these sources consist largely of primary products and semifinished goods.

U.S. imports from the manufacturing countries climbed 31 percent to $9.2 billion. The expansion centered in consumer goods and capital equipment as production at U.S.-affiliated overseas firms continued to increase rapidly. The inflow of electronic components and other electrical apparatus showed the largest advance; receipts of radio and television sets also expanded.

An increase of three-fifths pushed the level of U.S. exports to this group to $10.3 billion in 1973. The steep rise in sales can, in large measure, be attributed to strong economic growth in these countries, reflecting the expansion in industrial output to supply growing export markets. Our exports also benefited from the outflow of parts and accessories from U.S. companies to their subsidiaries in these countries and intense demand for American agricultural commodities.

Sales of machinery were in the forefront of the export expansion. Among industrial materials, steel exports more than doubled, in part because of reduced competition from suppliers in Western Europe and Japan where domestic demand curtailed export availabilities. Deliveries of iron and steel scrap also climbed. Exports of transport equipment rose substantially, paced by jumbo jets to Korea and Singapore, and motor vehicle parts to Mexico. Agricultural exports expanded on the strength of greater wheat, soybean, and cotton shipments.

Rise in oil imports

U.S. imports from countries whose shipments to this market consist primarily of petroleum rose to $5.4 billion in 1973. Apart from the expansion in purchases of petroleum which, of course, contributed most to the import increase, entries of foods, crude rubber, and iron ore advanced.

Benefiting from the large expansion in their foreign exchange reserves, U.S. shipments to the petroleum exporters increased by one-third to $4.5 billion. Shipments of machinery recorded a large gain, especially construction equipment and well-drilling machines. Deliveries of civilian aircraft advanced, particularly to Egypt and Nigeria. Steel exports climbed by one-half. The major portion of the gain in agricultural shipments was made up of wheat.

Most of the rise in U.S. imports from the third group of countries consisted of industrial supplies and foods. Arrivals of nonferrous metals, particularly copper, showed a large increase. Purchases of coffee, sugar, and meat also climbed. Imports from these countries totaled $4.8 billion, up 31 percent from the previous year.

Exports of industrial supplies led the 30 percent expansion, to $6.2 billion in sales to this group; shipments of steel, textiles, and fertilizers and other chemicals all advanced sharply. Deliveries of civilian aircraft and motor vehicles also contributed to the gain. Wheat shipments accounted for most of the expansion in farm exports, though rice and cotton also rose.

Forest Industries Show In Australia Seeks Entries

The Australian Forest Industries Machinery Exposition (FIME) is planning what may be one of the largest display and field demonstration of forest industries machinery in history. It will be held at Myrtleford, Victoria, Apr. 15-17, 1975.

The FIME organizers plan to include, in addition to static displays, softwood and hardwood areas with varying topography enabling on-site demonstration of cable logging systems, extraction equipment, shearing machines, tree harvesters, debarkers, chippers, crawler tractors, skidders, loaders, chain saws, mobile sawmills, log trucks, and a wide range of associated equipment.

Representatives from the entire timber-producing world are expected to attend. Write: Michael Batten, Forest Machineries Exposition, 262 Willoughby Road, Naremburn, N.S.W., 2065, Australia.

Taiwan Mission Visits Three U.S. Cities, Buys Consumer Goods

It was a "trade mission in reverse"—assisted by the Commerce Department, but comprised of visitors from abroad eager to purchase U.S. goods.

For 21 days, officials of 10 of Taiwan's leading department stores met with sales executives of U.S. manufacturers in Chicago, New York, and Dallas.

Secretary General K. H. Wu of Taiwan's China External Trade Development Council described the visit in the United States primarily as a buying mission of department stores in Taiwan, where U.S. merchandise is increasingly popular. This was reported to be the first such mission from Taiwan to the United States in a quarter of a century.

Key points visited

The Bureau of International Commerce's Office of Export Development planned the itinerary, arranged appointments, and provided an escort officer. Among the key points visited were the National Sporting Goods Show in Chicago, the Merchandise Mart, and the Continental Bank; the World Trade Center in New York, the American Textile Manufacturers Institute, and the N.Y. Gift Show; the Dallas Gift Show and world trade mart; and department stores in all three cities. Thus, the 17 mission members from Taiwan had an opportunity not only to talk with sales executives, but to observe operational techniques and facilities. The Secretary of the mission estimated that purchases resulting from its visit will reach $5 million by year's end. In all, the mission had the opportunity to view about 5,000 products of U.S. suppliers.

The popularity of U.S. merchandise, the continuing "buy-American" policy of the Taiwan Government, and the recent removal of many items from the list of prohibited imports all contribute to increasing purchases of U.S. goods.

S. J. Par, leader of the buying mission and president of Far Eastern Department Stores, said that his firm had imported about $1 million worth of U.S. goods about three months ago; today, it has all been sold. Taiwan's booming economy and rising per capita incomes are prompting increased interest in quality goods, the mission leader added.

LOOKING FOR BEST MODEL — *Buyers in Bangkok peruse U.S. textile and apparel machinery catalogs during five-day display. Attendance far exceeded expectations.*

Dog-Eared Product Catalogs Bring 'Good Show' Verdict

U.S. catalog show in Korea: "At first the trade visitors came for a look-see to decide what it was all about; next, a return visit with someone else from the company, in a technological or costs-related position; then a third visit, accompanied by someone of purchasing authority."

U.S. catalog show in Indonesia: "Businessmen wanted to take the catalogs from the show and even though they were promised copies through the mail, they seemed impatient to get the information. In fact, on the last day in Jakarta, our busiest with 168 visitors, we discovered that 12 catalogs were missing."

U.S. catalog show in Taiwan: "The books were really dog-eared at the end of the six days of use by at least 1,000 people in Taiwan."

What are these catalog shows?

A catalog exhibition is an overseas display of U.S. product catalogs, sales brochures, and similar graphic sales aids organized to promote interest in American products abroad. Usually comprised of catalogs from 100 to 120 U.S. participants, the displays are designed to test product interest in foreign markets, develop sales leads, and identify potential agents and distributors.

David K. Strong, sales manager for Forsbergs, Inc., Thief River Falls, Minn., a firm that entered its catalogs in a food processing and packaging show in Athens, said:

"This catalog event resulted in our locating and eventually contracting one of the top sales companies in Greece to represent our product lines."

Milton D. Field, president of Brunswick Engineering, Inc., Northbrook, Ill., after his firm's participation in a metalworking equipment catalog show in Tel Aviv, said that for a small company such as his "this is an excellent way to efficiently enter the international market." And after the same show, Horace Counts, export manager for Stoody International Co., Whittier, Calif., said that his company had "received more leads from this event than from any other means we have ever attempted."

Catalog exhibitions serve the foreign purchaser as well. A mill executive and six engineers came to a textile machinery catalog show in Taipei, interested in buying a complete spinning mill of 20,000 spindles. They began leafing through the books. They explained their needs to Mrs. Mildred Gwin Andrews, who had been invited to accompany the show. Mrs. Andrews formerly was executive secretary of the American Textile Machinery Association. She knew that the U.S. exhibitors' companies whose machinery was involved had an agent in the city. An immediate contact was made, and before the morning was over discussions were under way. The mill executive had not known that those U.S. firms had a representative there.

Each exhibition is fully supported not only by U.S. Foreign Service commercial officers but by a U.S. expert selected by the Commerce Department from the exhibitors' industry. Mrs. Andrews was the industry expert for the exhibition just mentioned.

Such specialists often serve as a bridge to various segments of the local industry by presenting technical lectures, visiting plants, or participating in panel discussions with local leaders. T. J. Jackson, a textile machinery expert from the Commerce Department, last fall accompanied a catalog show to Bangkok. While there, he visited two textile mills and lectured at the Bangkok Technical Institute and the Ministry of Industry's Textile Industry Training Center. By show's end, 353 visitors had registered and of those, 269 requested catalogs; many of the participating companies received ten or more requests.

GETTING TO THE BASICS — *Indonesian businessmen discuss equipment needs with Irvin Axelrod (second from right), industry expert accompanying U.S. food processing and packaging machinery catalog show in Jakarta. A visitor is registering just inside the doors; others browse at right rear. U.S. commercial officer James Reilly is at right.*

Solo or in tandem

Catalog exhibitions may be planned and staged as independent events—particularly in smaller or developing markets where opportunities for participation in product ex-

CATALOG SHOW OVERVIEW — *Display shelves for the books, reading tables for customers are provided by Commerce for its catalog exhibitions abroad. Above, staff orientation just before opening of health care equipment show in Brussels held as a part of biennial International Exhibition of Medical and Hospital Equipment.*

hibitions are limited—or in conjunction with trade shows, association conferences, workshops, or locally organized product displays.

Commerce arranged an "independent" one in Manila on food processing and packaging machinery, and asked the assistance of Irvin Axelrod, a Department specialist in such equipment. He reported that 760 visitors had come; that he had had appointments with presidents of various food processing firms, government officials, representatives from the largest Philippine distillery, presidents of several large restaurants, management consultants, college professors, marketing managers, export officials, and company agents; and that he had been invited to visit several plants to view operations and perhaps recommend improvements to increase productivity.

A joint arrangement was effective when Commerce staged a catalog show at the International Exhibition of Medical and Hospital Equipment held biennially in Brussels. Of the 500 persons who viewed the catalogs, 110 registered to obtain more information on American health care products. Industry expert Paul Widman of the Cleveland Clinic, a large diagnostic and hospital center in Ohio, fielded a number of requests from doctors, hospitals, government officials and universities for information on certain American products.

Reports on markets

Upon their return to the States, the industry experts who have accompanied catalog shows report on the market situations they have found. Mrs. Andrews, whose show was displayed in Korea, Hong Kong, and Taiwan, summed up the "textile Asia" market after talking with hundreds of show visitors in the three countries:

"There is no doubt that the market for textile machinery in those Eastern Asian areas is wide open. The textile and apparel industries are buying equipment and it is simply up to the American builders of such machinery to grab the market while it is available and willing. The textile industries of the three countries I visited are buying, and if they cannot buy from the United States, they are buying from Japan or Europe. The Asian market prefers American-built equipment and the purchasers are willing to negotiate sales even on a long time delivery basis."

The Commerce Department provides participants with attractive display facilities, catalog reference index, industry expert, trade leads, and visitor listing, and a librarian/receptionist. U.S. firms provide catalogs, brochures and other sales materials, and contribute a nominal sum ($25 to $45, depending on number of show sites). No company products or personnel are required; the catalogs and staff do the work.

For information on scheduled exhibitions, contact the nearest Commerce District Office or call Robert E. Peterson at 202-967-3973. Also, upcoming catalog shows are listed in *Commerce Today* as a part of its Worldwide Business Services section, under U.S. Promotions Overseas. The schedule through September is:

May—educational materials, Dortmund, Germany; hospital and medical equipment, Lagos; petroleum equipment and process control instrumentation, Amsterdam. June—ship building and repairing material, Athens. July—printing and graphic arts equipment, Hong Kong, Taiwan, Thailand; analytical and laboratory instruments, Malaysia, Philippines, Singapore. August—hotel and restaurant catering equipment, Lesotho and Swaziland; computers and information processing, Stockholm. September—pollution control systems and equipment, Paris. For details, see list on pages 33-36.

Agent-Finding Service Revises Charge To Users

The Bureau of International Commerce is revising the fee for use of its Agent/Distributor Service (ADS), the Bureau's primary means of locating appropriate overseas representatives for U.S. companies interested in selling their goods or services worldwide. As of April 1, the fee is $25.

For this fee a U.S. company receives the names and addresses of foreign firms, selected by Commercial Officers of the U.S. Foreign Service, that have expressed interest in representing the company. The firms are checked for their sales capability in the product lines of interest, their financial status, and absence of ties with competitive companies. This search, which takes place over an average 30-day period, results in the presentation of up to three prospects to the requesting company. The information is transmitted to the Commerce Department in Washington by international telegraph.

A Bureau of International Commerce official, Robert D. Sharpe, explained that the increase in price for the Agent/Distributor Service was undertaken to recover for the government a larger portion of total costs involved in the process. Through its first test year of worldwide operation the ADS was priced at $10.

Increase in use

Sharpe said that it is apparent from the response of U.S. businessmen during the first full year of ADS operation that the service is meeting its goals. The number of users has increased substantially.

"The ADS was tested side by side with the familiar service known as the Trade Contact Survey, offered by the Commerce Department for many years as a means of locating prospective overseas representatives," Sharpe said. "A task force of experienced Commerce and State Department officials assessed the results and recommended that the Trade Contact Survey—a search that averaged 120 days in length and was priced at $50—be replaced with the more streamlined ADS procedure. In addition to cutting about 90 days off the time for seeking out and checking prospective representatives, the ADS is sending the results to the U.S. by telegram rather than by the earlier airmail method."

Businessmen interested in the Agent/Distributor Service may contact the nearest Commerce Department District Office (see inside back cover of this issue) where an international trade specialist will discuss the export sales potential of their products, counsel them on target markets, and assist in preparation of a "Request for Agent/Distributor Service" application.

Worldwide Business Outlook

Iran Makes Ambitious Plans, Welcomes U.S. Participation

Iran's impressive economic performance of recent years has continued and probably even speeded up slightly during recent months.

The current real rate of growth in gross national product is about 14 percent. With continuing availability of foreign exchange, thanks to rapidly expanding oil revenues, and high rates of savings and investment, rapid growth is expected by the U.S. Embassy in Tehran to continue over the next few years, making Iran one of the more attractive markets for exports and foreign investment in the developing world. As pressures have become more intense, however, the problem of keeping the overheated economy under control remains.

Recent dramatic developments in the world petroleum situation have improved Iran's already favorable foreign exchange situation and economic development outlook sharply. The Fifth Development Plan (March 21, 1973—March 20, 1978) is expected to be revised upwards substantially. Development outlay originally set at $36 billion reportedly will be increased by as much as an additional $10 billion. Agriculture, the steel and petrochemicals industries, and oil and natural gas are expected to benefit from large increases in planned investment.

FIRST TEHRAN SHOW—*David Naylor of Codman and Shurtleff converses with a prospective agent at the Tehran Trade Center's initial event, an exhibit of U.S. medical and hospital equipment in November.*

With petroleum exports already accounting for more than 80 percent of Iran's sales abroad and the oil sector accounting for more than one-fourth of its gross domestic product, the recent boost in the world price for oil is the most important factor in Iran's impressive economic performance. The sharp increases agreed upon among petroleum exporting countries in October amount to an overall increase in Iran's foreign exchange receipts of about 70 percent per barrel of oil exported. Earnings from petroleum exports in the Iranian year ended March 20 probably amounted to about $4 billion, or over $500 million more than projected before recent price increases.

Iranian oil corporation

As anticipated, the National Iranian Oil Company (NIOC) as of July 31, 1973 assumed direct control over petroleum production and investment. The Consortium dissolved its Dutch-incorporated Iranian Oil Operating Companies and formed a new Iranian corporation, the Oil Services Company of Iran (OSCO), to assist NIOC in operating the fields. The new agreement provides compensation to Consortium members for their investments in Iran. Iranian oil production averaged about 5.9 million barrels per day in 1973 as compared to 5.1 million in 1972, or an increase of about 17 percent.

Large new investments are under way for the natural gas industry. Kalingas, a new company half-owned by two American firms and a Japanese and a Norwegian company, and the other half by the National Iranian Gas Company (NIGC) plans to construct near Kangan on the Persian Gulf a liquefied natural gas plant with first-stage capacity of 1.2 billion standard cubic feet per day for export to the United States and Japan. A Texas-based company plans to take part with NIGC in an investment (reportedly totaling $650 million) for production of natural gas liquids and methanol for export to the United States. The facility eventually is expected to deliver to the United States the equivalent of about 550 million standard cubic feet of pipeline quality gas per day.

Significant new U.S. investment is expected shortly in the banking system. Approval has been given for establishment of a new commercial bank which will specialize in financing purchases of consumer durables, especially automobiles. A major U.S. bank and automobile manufacturer are participating with an Iranian partner.

The most important deal negotiated with a non-U.S. investor during the past half year is the agreement reached with Korf, a West German firm, for establishment of a 1.2 million metric ton annual capacity gas reduction sponge iron plant at Ahwaz in collaboration with a new public sector corporation. Korf plans to employ a Midland-Ross (U.S.) process, for which it holds a license in this area.

The Government of Iran plans to expand total steel production, which began only last year, at the Soviet-built plant near Isfahan, to 15 million metric tons in ten years. American, German and British firms have indicated interest in proposed plants at other sites.

Progress in the industrial and oil sectors in Iran in recent years has not been matched in agriculture. Iran's lagging foodgrains and protein production has become a major concern of the government, and agriculture is receiving increased attention in the Fifth Development Plan.

Iran, which could boast of relative price stability over most of the past two decades, has experienced worrisome price increases over the past two years. The government is becoming increasingly concerned over the problem of inflation and has taken strong measures to control prices and curb credit.

American firms participating in the expanding Iranian market will continue to face keen competition from West European and Japanese companies, as well as the increasingly sophisticated production of Iranian industry. Foreign firms usually offer attractive financial and servicing facilities, and in order to be competitive, U.S. companies must not neglect this aspect of their sales effort.

Because an intimate knowledge of local market conditions is an essential ingredient of commercial success in Iran, the importance of obtaining the services of an aggressive and competent local representative cannot be overemphasized. Iranians are experienced comparison shoppers. Prospective U.S. sales usually benefit from such considerations as product quality and reputation, advanced technology, and well-established post-sale support facilities.

Sale of American products also has received something of a boost from the dollar devaluation and more rapid inflation in Europe and Japan.

The Export-Import Bank has just approved a $45 million loan to Iran Air to help finance the national airline's purchase of three Boeing-727 jet passenger aircraft and two 747's, the first jumbo jets purchased for civilian use in Iran. Eximbank has strongly supported American commercial endeavors in the country, and can provide essential pre-commitments on financing, assist in covering the cost of engineering and feasibility studies, and make credit available through local banks to small and

medium-sized purchasers of U.S. equipment and related services.

The U.S. Trade Center with a resident director and staff was officially opened in Tehran Nov. 4.

As in the past, American suppliers of foodgrains; heavy construction equipment; motor vehicles; aircraft; agricultural machinery; office equipment; communications, power generation, and electronics equipment and facilities; medical, hospital and laboratory supplies; electrical, textile, and metalworking machinery; iron and steel; and automotive parts, servicing equipment, and fittings probably have the best prospects for sales in the Iranian market.

The plans to make Iran a major steel producer over the next decade should bring numerous trade opportunities to interested American companies. As pointed out, the German firm building the new sponge iron plant will employ U.S. technical know-how, and other foreign firms probably will rely to some degree on American techniques. Expanded activity in the petroleum and minerals sector and in agro-business also should offer new export opportunities to U.S. firms.

Rapidly expanding investment opportunities should present themselves to the prospective foreign investor over the next several years. The private sector is expected to supply more than a third of the capital required for the country's huge development effort. Participation of foreign firms in the expansion of the steel industry, development of the country's large natural gas and mineral resources, and agro-business will be especially welcome. A new international airport for Tehran and large-scale expansions of electric power generating and transmission facilities and the irrigation network should provide other investment opportunities.

The Government of Iran continues to be one of the more favorably disposed among developing countries towards foreign investment. It provides numerous incentives such as tax holidays, exemption from import duty for machinery and equipment, and long-term credits on favorable terms depending upon its evaluation of the country's need for the particular industrial enterprise concerned. Industrial development in many sectors is just getting under way, and the country for a number of years in the future likely will be seeking energetically to broaden its industrial base.

While foreign ownership in newly-established joint ventures usually is not permitted to exceed 49 percent, American companies with needed know-how, an active interest in investing in Iran and a reliable Iranian partnership arrangement can expect to be welcomed. Licensing and technical cooperation agreements with both public and private sector companies, where no foreign equity investment is involved, also are attractive and frequently concluded.

Dynamic Mexican Showing Brings Big Rise In U.S. Sales

The Mexican economy turned in an impressive performance in 1973, especially in terms of production and sales, but growth is beginning to moderate somewhat in 1974.

U.S. firms benefited from last year's growth, adds Robert A. Kohn, Commercial Officer at the U.S. Embassy in Mexico City, as U.S. sales to Mexico rose from $1,982 million in 1972 to $2,937 million in 1973—a whopping 48.2 percent increase. The U.S. share of the Mexican import market reversed a downtrend of several years by rising from 60.5 percent in 1972 to 62.8 percent. The strengthening of the U.S. position was partially due to revaluations of European and Japanese currencies last year. Mexican imports of parts for the manufacture of motor vehicles, tractors, television sets and electronic tubes, together with imports of construction and mining equipment, were mainly responsible for the sharp rise in U.S. sales. Iron and steel products, ferrous scrap, and certain agricultural products (grains, oilseeds and oilseed products, and livestock) also showed substantial increases.

Retail sales also reached unprecedented levels. Increased sales of more than 20 percent by chain department stores and shopping centers were not uncommon, even in the face of rapidly rising prices.

The construction industry also reached record highs, largely due to an increase of over 30 percent in public expenditures for housing. At various times during the year, new construction had to be curtailed as a result of materials shortages and inadequate transportation facilities.

Agricultural production, electric energy generated, and tourism were also up. Despite adverse weather conditions and summer floods, agricultural performance (including livestock) in 1973 was about the same as in 1972. Some improvement is expected this year.

One serious shortcoming in 1973, however, was the fact that petroleum production increased only modestly and there were substantial increases in the cost of imported fuel and oil derivatives. Late last year the government initiated a crash program to increase oil exploration and production, and Mexico may well achieve her long-sought goal of self-sufficiency in this fuel within the next year or so.

A serious concern

The most serious problem besetting the Mexican economy in 1973 was galloping inflation. The Mexico City wholesale price index rose a dramatic 25 percent during 1973. Last year was the first time in more than a decade that the increase in prices for industrial products outstripped the rise in cost of consumer goods. A rise in demand had been expected in 1973, but no one had anticipated the level actually reached.

Early indicators point to continued high inflation this year, though at a rate lower than in 1973. The new year began with sharp rises in costs of fuel, utilities, textiles, clothing, shoes, construction and other labor-intensive industries.

The "non-inflationary" federal budget for 1974, although providing for expenditures 14 percent above what the government actually spent last year, allows for only modest new public-sector investment; in fact, much of the budget increase will actually be absorbed by higher salaries and greater administrative costs.

Higher costs for raw materials and energy, combined with general wage increases on an average of 20 percent last September and a cumulative increase of 32 percent in minimum wage rates effective in January 1974, will tend to counter the government anti-inflationary efforts and feed the inflationary spiral somewhat.

It is not certain that the government will impose stricter price controls in 1974, but the government will no doubt intensify its use of "moral suasion" (the application of a variety of pressures on private concerns not to raise prices), despite the fact that it has been forced in recent months to authorize increases in the controlled prices of tortillas, milk, newsprint, automobiles, gas and electricity.

Insufficient production capacity

Insufficient industrial capacity was another important factor adversely affecting the economy in 1973. Mexico's growth rate in the next few years will be determined more by what it can buy abroad in the way of capital goods than what it can produce domestically. This phenomenon will continue to be a determining economic factor for at least the next 18 to 24 months.

Industries in Mexico, with the exception of textiles and petrochemicals, are currently operating at or near full capacity. Yet in many of these industries there are no short-term plans to increase capacity, and those industries that are planning to expand will not be able to increase production for at least another 18 months. Whereas the rate of industrial growth in 1973 was some 8.2 percent, the rate may not reach much more than half that figure this year because of the relatively small amount of industrial expansion currently programmed.

Cement, steel, aluminum and other key industries are unable to fill large pending orders. The sale of petrochemical products,

particularly plastics, is being "rationed". It is becoming increasingly difficult to obtain paper products, despite record prices. The lack of many industrial raw materials, especially those which must be imported, is becoming chronic, and little immediate relief is in sight.

Uneasiness, uncertainties

Another serious problem in 1973 which continues into 1974, although to a lesser degree, is the uneasiness of the private sector over certain policies and attitudes of the present administration and uncertainties as to how the government will apply the legislation on foreign investment and technology transfer which it passed in early 1973.

In recent months, however, the psychological climate may have improved somewhat as the administration has made a concerted effort to assuage private sector fears, reaffirmed its adherence to the mixed-economy approach to development, and intensified its efforts to suppress terrorism. Careful watchfulness is the dominant attitude in the business and financial community today.

Despite the above, the value of new private investment, both domestic and foreign, is estimated to have been some 10-12 percent of GDP in 1973. A similar level is predicted for 1974. New industrial plants will have to incorporate anti-pollution controls which will add to cost but not to productive capacity. Industry will continue to produce at the record high levels reached in 1973, but there will be little expansion. The anticipated 5-5.5 percent increase in GDP in 1974 will fall below the 7 percent growth level the Mexican Government has declared the "minimum necessary" to meet its social goals. GDP growth in 1973 was between 7.1 and 7.6 percent, measured in real terms.

The inability of Mexican industry to keep up with soaring demand has resulted in, and continues to present, an excellent opportunity for U.S. exporters to enter the Mexican market or to increase substantially their sales to that country. While Mexico's exports rose 34 percent in 1973, imports climbed even faster, an estimated 40 percent as compared with 1972. While the balance of trade favors the United States, Mexico enjoys an overall favorable balance of payments with the United States when tourism, border transactions and direct private investment are added.

The Mexican Government is attaching greater importance to improved standards in manufacturing, and as a result Mexican industry is seeking high-quality capital goods as well as sophisticated equipment for material-testing and quality control. Mexican industry will also require more packing and packaging-control equipment as the government establishes basic standards and regulations for a growing number of products. Construction equipment is another fertile field for increased U.S. sales, as well as telecommunications, aircraft, petrochemicals, and power-generating and power transmission equipment.

MEETING WITH BUYERS IN MEXICO — *U.S. exhibitors talk with prospective buyers at the booth of Precision Metalsmiths, Inc., Cleveland, during a recent Trade Center show.*

Petroleum Bonanza Gives Ecuadoreans Funding Resources

The boom in petroleum prices has given Ecuador an excellent opportunity to gain ground on its Andean neighbors in terms of economic development.

Ecuador has enjoyed a healthy rate of growth, 8-9 percent annually in real terms, since the end of the 60's, but in 1973 the picture brightened immensely. At the prices and production rate of January, the U.S. Embassy in Quito estimates that petroleum output would be worth more than $900 million a year and would yield over $600 million in government revenue.

The chief implications of this new found wealth are that the balance of payments ceases to be a constraint on public or private investment plans for at least several years, and the Government of Ecuador has the resources to fund priority development projects, undertaken on its own or in conjunction with international financial institutions.

Investing, building, consuming

Given the prospect of greater prosperity, Ecuadoreans are taking full advantage of the opportunity to invest, build and consume, and thereby they have begun to make the potential a reality, especially in the major cities and at least among better-off sectors of the population.

Petroleum has swiftly assumed a commanding position in the Ecuadorean economy through its impact on government revenues and foreign exchange earnings, although its direct effect in terms of employment and linkages with other sectors is not great. Texaco-Gulf expects 1974 production to be only slightly less than the trans-Andean pipeline capacity of 250,000 barrels per day, and in 1975 the company may raise production and pipeline capacity to around 350,000 bpd. Net crude petroleum exports should exceed 200,000 bpd. in 1974, and the net favorable impact on the balance of payments would be close to $700 million at present prices. At Government of Ecuador request, Texaco-Gulf has agreed to negotiate the sale of a 25 percent participation in the company to the Ecuadorean State Petroleum Co. (CEPE).

Apart from Texaco-Gulf, little petroleum of commercial quantities and quality has been discovered. Three other foreign-owned groups remain exploring in the Oriente (Amazon) region of Ecuador, and only one, U.S.-owned Cayman, is likely to enter production on a modest scale within the next few years.

Petroleum revenues have greatly eased the government's fiscal situation. At January prices, revenues from petroleum alone

would exceed $600 million in 1974, and total government revenues could be 2.5 times those of 1972. Income of this magnitude far exceeds the government's ability to spend without accelerating the pace of inflation.

Nevertheless, in view of the country's great needs, the government plans to expand the public sector by about 30 percent in 1974. Whereas the central government incurred a deficit of $21 million in 1972, it ran a small surplus in 1973 and could have a surplus exceeding a hundred million dollars in 1974.

Therefore, in December the government created a National Development Fund to receive a substantial portion of petroleum revenues for purposes of investment in priority projects of the 1973-77 Five-Year Plan. The Esmeraldas petroleum refinery, on which construction should begin early in 1974, will be financed in large part domestically from the National Development Fund.

Situation never brighter

The balance of payments situation has never been brighter. According to preliminary Central Bank figures, the merchandise trade balance was slightly negative in 1973, but the basic balance (current account plus long-term capital) was positive by about $70 million. Exports shot up from $323 million in 1972 to $550 million in 1973 (preliminary data) and could surpass $1,200 million in 1974 if petroleum prices hold at January levels. Strong coffee and cocoa prices gave traditional exports a boost in 1973, and non-traditional exports (apart from petroleum) increased more than one-third.

Foreign exchange reserves, only $25 million at the end of 1971, rose to $128 million in 1972 and $232 million at the end of 1973.

In response, Ecuador has progressively dismantled import barriers. The prior import deposit requirement was abolished entirely in February 1973, and reductions or exemptions from import duties are available to investors under a number of laws. Most recently agricultural machinery and supplies received duty-free status and exemption from the 4 percent sales tax.

The liberal import regime applicable to most goods, coupled with buoyant demand, should have a highly stimulative effect on imports in 1974. Imports increased about 33 percent in 1973 (balance of payments basis) and could rise more sharply in 1974.

The sucre remains one of the strongest currencies in Latin America. The official and free foreign exchange markets are in effect unified under a February 1973 commitment to the IMF.

Although the petroleum windfall augers well for the next several years, Ecuador remains a country with severe economic problems. The worst is agriculture. For years production in the agriculture and livestock sector has lagged behind population growth. Consequently, much of the 60 percent of Ecuador's population that is rural live in conditions of economic depression. The government has made resuscitation of agriculture one of its top priorities.

A related problem is that of inflation. Rising food prices, plus shortages of industrial and construction materials associated with a higher rate of economic growth, were the chief elements in an inflationary situation that became serious but not yet insuperable in 1973. The pillars of anti-inflationary policy have been freer trade, tax relief, and enhanced investment incentives, plus somewhat greater control over credit expansion. Thus the thrust of this policy is to grapple with inflation without stifling economic growth.

The military government has enjoyed good fortune as well as some successes in its economic and energy policies thus far. President Rodriguez Lara has often stated that the armed forces will retain power until completion of the 1973-77 Five-Year Plan. At this writing there is no serious challenge on the horizon. The outlook, therefore, is for political stability in 1974 and continuity of economic policies.

The unprecedented growth of Ecuador's import capacity combined with a liberal import regime and essentially stimulative economic policies present the United States with a diamond-studded opportunity to expand markets in Ecuador. Ecuador is one petroleum exporter whose import needs are so great that its foreign exchange earnings will be spent, even if not all in the same year. Demand will probably be strong in all categories of imports.

Ecuador welcomes foreign investment on its own terms, which in some ways are stricter than Decision 24 of the Andean Pact. Most new large-scale investment in the extensive area of natural resources (hydrocarbons, mining, fishing) is reserved in practice for state or mixed enterprise. The same is true of certain basic industries such as steel, cement, public utilities, and petrochemicals. In most other areas, foreign investment may be wholly-owned or joint with private Ecuadorean capital, although there are some advantages to the latter.

Jamaica Institutes Controls On Movements Of Its Currency

The import and export of Jamaican currency is now prohibited. The Bank of Jamaica is no longer obliged to accept for redemption any Jamaican currency remitted to it from overseas. Local commercial banks may not accept Jamaican currency from overseas to settle accounts, and arriving or departing tourists will not be allowed to have Jamaican currency in their possession. These regulations, prompted by balance of payments difficulties, will remain in effect indefinitely.

Upper Volta, Hit Hard By Drought, Is Fighting Back

The northern portions of Upper Volta have been suffering from a six-year drought, and the effects of poor harvests will be felt through 1974.

Human suffering has been extensive in the West African nation, although the number of deaths from starvation-related causes has been limited. Lack of water coupled with overgrazing caused a substantial number of cattle deaths. Significant numbers of farmers from the north-central area have migrated to the south and west in search of lands with better rainfall, and some have migrated to Ouagadougou or to the Ivory Coast and Ghana in search of work. In the far north, nomadic patterns have been disrupted by cattle loss and premature drying-up of water sources.

However, continues the U.S. Embassy in Ouagadougou, these events have had little effect on Upper Volta's commercial imports. Of the country's 5.6 million population, some 95 percent is in the rural, traditional sector and lives on a subsistence basis. The urbanized 5 percent has been only marginally affected. As a result, commercial imports have not been noticeably affected, and indeed have been increasing in value.

Foreign donors help

Suffering has been alleviated by import of foodstuffs and medicines from foreign donors, including some 68,000 tons of grain during 1973. This assistance, coupled with regular foreign aid and other invisibles, has given Upper Volta a positive balance of payments and increasing foreign reserves despite large deficits in its trade balance.

Another bright spot is the government budget. Because of a policy of fiscal austerity, the budget has been balanced for the past seven years, and some ex-post surpluses have been realized.

For 1974, Upper Volta faces problems on two fronts. One is inflationary pressure generated by the rising price of imports in general and petroleum in particular. The government can do little about this directly, but its good fiscal situation and the continuing inflow of foreign aid and worker remittances will mitigate the problem.

The second issue is the need to overcome the effects of the drought and move forward with economic development. Here, Upper Volta can look forward to substantial foreign aid. Representatives of the region's six drought-stricken states—Upper Volta, Mali, Niger, Senegal, Mauritania, and Chad—met in Ouagadougou twice in 1973 to declare the region a disaster area and to outline a program for development.

The favorable response by international

donors—including the World Bank, the United States, and the African Development Bank, as well as the UNDP, France and the EEC—will create some opportunities for American firms. Key areas of development will be water resources, livestock and range management, reforestation, improvement of infrastructure, and public health programs.

U.S. firms already active

The magnitude of work required was demonstrated by a September meeting of the six drought-stricken countries, which approved recovery and development projects valued at nearly $50 million for Upper Volta alone. At the present time, several American firms are already engaged in work on a variety of development projects in Upper Volta.

In the long-term, development of transportation networks, promotion of agriculture, and improvement of health delivery systems will be high on the agenda. Recent World Bank loans for telecommunications ($4.5 million), construction of rural education centers ($2.85 million), and development of cotton production ($6.2 million) may offer opportunities. A considerable number of aircraft and helicopters will be required for spraying river valleys against onchocerciasis. These planes will be bought or leased from foreign suppliers.

The exploitation of local mineral resources offers the most potential for U.S. investment. High grade manganese deposits (10 million tons—51 percent chemical grade) located at Tambao are the most important of these. Copper deposits also exist in the southwest and northcentral parts of Upper Volta. Other possibilities which have been investigated include vanadium and bauxite.

Present U.S. investment in Upper Volta is limited to petroleum distribution, minority interests in local banks, and one small agribusiness venture.

The potential for consumer products is likely to remain limited. The best chances for U.S. suppliers will be in the following product lines: clothing, both used and new; pumps and other electrical machinery; housewares; pharmaceuticals; earthmoving equipment; refrigeration equipment; and fertilizers and insecticides.

Marketing should emphasize the personal touch and correspondence and promotional literature must be in French. Suppliers should not overlook the importance of dealing through a reputable African agent.

The commercial market in Upper Volta should be viewed in its regional context. Upper Volta forms part of a group of nine French-speaking countries in West Africa, six of them sharing a common currency, which constitute a regional market of some significance. Regionally-targeted marketing efforts, which have their major payoff in neighboring countries, can also benefit sales to Upper Volta and the remaining states of the area. This will be increasingly true if the new six-nation West African Economic Community (CEAO) develops as planned.

American trade with Upper Volta faces obstacles which have thus far kept trade at relatively low levels. The small size of the local market is the biggest obstacle, followed by traditional trade ties, the language difference, a modest tariff disadvantage, and transport expenses. Despite these problems, there are possibilities for some increase in trade and investment.

HELPING UPPER VOLTA — *American grain is loaded aboard a C-160 cargo plane airlifting relief supplies to Upper Volta, one of six West African countries gripped by severe drought for the last few years.*

Chileans Again Look To U.S. Suppliers As They Work To Resuscitate Economy

The deterioration in the Chilean economy that occurred during the final months of the Allende Administration continues to plague the new government, reports the U.S. Embassy in Santiago, but export opportunities in Chile for imaginative U.S. firms should increase substantially in 1974.

In 1973 Chile experienced a declining growth rate for the first time in many years; ODEPLAN, the Planning Office, estimates that the gross domestic product decreased by some 5.7 percent. According to the National Statistical Institute, industrial production during the first ten months of 1973 was 5 percent lower than in the comparable 1972 period. ODEPLAN estimated a decline in 1973 agricultural production of more than 16 percent and a further decrease in total investment of almost 3 percent.

Inflation reached 480 percent for the first eleven months of 1973 and was expected to be at least 500 percent for the year, a Chilean record. In the twelve months through November, money supply increased by 324 percent because of very large Central Bank emissions to cover rapidly growing public sector expenses.

Economic policies

The new authorities are now attempting to correct the distortions and imbalances in the economy. Generally following the advice of Chilean academic economists, many of whom were trained in the United States, the government has begun a program designed to bring about economic stabilization and growth in a more market-oriented society. Price controls have been lifted from most items in order to rationalize prices in Chile, and bring them more in line with international levels, and provide greater incentive for productive activities.

In addition, the exchange rates for exports and imports have been consolidated (to two) and drastically devalued, causing higher prices for imported products and making exports more competitive. Recent rate changes indicate that Chilean authorities may be moving toward a single basic foreign exchange rate.

The result of these policies has been a sharp rise in the cost of living since September. However, goods are now plentiful in Chilean stores, and the black market that flourished in the Allende years has disappeared as normal distribution channels have reopened. Manufacturing output has increased sharply. Comparison shopping, retail credits, and discounts have once again become a part of the Chilean commercial scene.

The rapid inflation has not been matched by comparable wage increases in recent months. The resultant squeeze on consumption is part of the government's policy to bring supply and demand into equilibrium.

Temporary cost of living bonuses given during the final quarter of last year have been replaced by a general wage increase. The government is now faced with the twin problems of reduced demand and increasing unemployment during the economic stabilization phase of its program, but it considers these difficulties will lessen early this year.

The government is attempting to cut the number of public employees and reduce drastically the public deficit. The status of enterprises taken over by the Allende Administration is being reviewed on a case-by-case basis. Approximately 88 reportedly

will be returned to their former owners on condition that they assume all debts formerly contracted with state agencies and not sue the government for any previous damage to the firm. Enterprises that were legally purchased by the Allende Government are expected to stay under public control.

Decentralized agencies of the public sector have been allowed large price increases planned to cover most or all of their costs. It is expected that the 1974 central government budget will be austere, with reductions in marginal programs and personnel, and that there will be a reform of the tax structure to increase real revenues.

Chilean economic authorities are hoping that production will rise very substantially in 1974 and that larger savings and investments will start expanding the country's economic capacity. They have indicated that the agricultural and manufacturing sectors must become more competitive. They hope that inflation, measured by a revised and more realistic consumer price index, can be held to under 100 percent during the current year.

Copper exports account for approximately 80 percent of Chile's foreign exchange earnings. The head of the Chilean Copper Corporation (CODELCO), estimates that 1973 production of the *Gran Mineria* (large copper mines) was approximately 600,000 metric tons, slightly above 1972. However, copper export earnings in 1973 were much higher (approximately $1 billion, including 130,000 MT attributed to small and medium mines) because of record copper prices.

Despite this windfall, the Central Bank has publicly estimated the 1973 commercial deficit at around $400 million, partly because of increasing agricultural imports and rising prices for imports. CODELCO has set 1974 copper production goals at 740,000 MT for the *Gran Mineria* and 160,000 MT for the small and medium mines.

New sources of assistance

The change in the Chilean Government resulted in a suspension of most credits from socialist countries. These have been replaced by new sources of economic assistance, primarily from the United States, Brazil, and Argentina. The United States has provided credits of $52 million for the import of wheat, corn and possibly sorghum, and a number of U.S. banks have increased or opened lines of credit. International lending organizations, such as the World Bank and the Inter-American Development Bank, are studying project loans. The International Monetary Fund has extended balance of payments assistance of some $95 million to Chile under a standby agreement.

Chile's foreign reserve and debt situation remains serious. According to the Central Bank, its assets of gold and available foreign currency amounted to only $97 million in September. The Bank estimated a deficit in Chile's balance of payments of over $200 million last year, resulting in net international reserves of approximately minus $500 million by the end of 1973. Net foreign debt is estimated at $3.5 billion. The government hopes to postpone most, if not all, of its 1973-1974 debt payments to major western creditors.

More than 40 Chilean firms with U.S. investment were taken over by the Allende Administration. Three have now been returned to their former owners, and it is likely that a majority will revert to their pre-1971 status. However, government authorities have indicated that the large copper mines, nationalized in July 1971, will remain in public hands, but that they are prepared to review the matter of compensation for the expropriated properties of the U.S. copper companies (Anaconda, Kennecott, and Cerro).

Details are not clear

Foreign Minister Huerta has said that new foreign investment is welcome in Chile, but that it will have to follow the norms of the Andean Group investment code. The details of government policies on such matters as worker participation in enterprise management and profit remittances are not yet clear.

However, if the Chilean economy begins to grow rapidly in 1974, U.S. companies may wish to consider the possibility of new or expanded investment, particularly in manufacturing.

Under Allende, trade with the United States declined steadily, reaching a level of $182 million (according to U.S. Department of Commerce figures) during the first nine months of 1973. Of this amount U.S. exports to Chile were $130 million (compared to $148 million in the same 1972 period) and U.S. imports of Chilean goods were $52 million ($64 million for comparable 1972 months).

The recent change of government has meant a dramatic turnaround in the U.S. export picture in Chile. According to Chilean Central Bank data, import registrations of U.S. products for the month of October alone amounted to $117 million. Most of these goods were foodstuffs, principally wheat. The U.S. Embassy in Santiago estimates that U.S. exports to Chile during 1973 totaled some $250 million, compared with only $187 million in 1972.

The Chileans are again looking to U.S. suppliers but, because of Chile's foreign exchange difficulties, credits will be necessary to sell many items. The Embassy has recently received a number of indications that Chilean public and private sectors are eager to buy U.S. goods. For example, Gildemeister, a Chilean importer of transport equipment, says it would purchase at least $25 million of Caterpillar vehicles if credits were available.

In general, Chile needs machinery and equipment in such areas as the copper mines, steel production, the oil industry, and the transportation sector. Agricultural products from the United States will also be necessary during coming months.

South African Government Revises Import Permit Rules

The South African Government has set new regulations for import permit issuance during 1974. Under the new rules, 51 items no longer require permits to be imported into South Africa and 13 others previously prohibited from import are now allowed under quotas.

Items no longer requiring permits include certain types of edible nuts, textiles, photographic and printing equipment, sporting goods, and paper products. The 13 items removed from the prohibited list include equipment for construction, fruit, and printing and writing paper.

The 1974 import regulations are part of a trend toward relaxed controls that was begun in 1972. This trend reflects a growing demand for imports by South Africa's growing economy.

At the same time, the government has begun to replace some import controls by tariffs in an effort to conform with the General Agreement on Tariff and Trade (GATT). Many items decontrolled for 1974 are not manufactured in South Africa but are in industrial sectors heavily protected by the government.

Applications for 1974 import permits have been accepted since Jan. 1, but most imports will enter South Africa under 1973 permits until their expiration on March 31.

Embassy Publication Advises Newcomers To Saudi Market

U.S. firms looking for the first time at Saudi Arabia as a market for their products may be interested in a 19-page report prepared by John L. Nesvig, Commercial Attache at the U.S. Embassy in Jidda. In *The Saudi Arabia Market, A Guide for U.S. Businessmen*, Nesvig considers the three distinct segments of the Saudi market—Aramco (the Arabian American Oil Co.), the government, and the private market. He describes each in general terms and focuses on specific opportunities and problem areas believed to be of special interest to American businessmen. The theme throughout is that the Saudi market represents unique export opportunities for U.S. firms willing to adopt an active marketing strategy.

For a free copy of Nesvig's report, write: Near East-South Asia Division, Office of International Marketing, Room 5015, U.S. Department of Commerce, Washington, D.C. 20230.

International Business Reports

Wenco International Trade Directory. Published by Wenco Enterprises, Inc., Portland, Ore. 2,688 pp.

This directory of international trading companies was listed earlier in these columns, but the name of the publishing firm was inadvertently misspelled as "Wemco".

As noted earlier, this registry of 126,000 firms provides an international marketing tool covering more than 150 nations. Products and services are indexed by the Standard Industrial Classification Code, and trading nations, with maps, are listed alphabetically. Included is essential information on documentation, marking, symbols, weights and measures, and checklists.

Write: Wenco Enterprises, Inc., P.O. Box 4263, Portland, Ore. 97208.

The Pricing of Crude Oil: Economic and Strategic Guidelines for an International Energy Policy. By Taki Rifai. 356pp. $22.50.

Suggests that crude oil pricing is more the result of political and strategic considerations than merely the result of supply and demand. Demonstrates that an overall pricing structure does exist, and describes and interprets the 1970-71 international oil crisis.

Write: Praeger Publishers, 111 Fourth Ave., New York, N.Y. 10003.

European Compensation Survey. Published by Business International Corp. Individual country reports $72 each postpaid, all 10 countries $440.

This guide for U.S. international companies in determining compensation for their overseas personnel provides information on current salary and other compensation rates for employees in 63 job categories, including professional and technical; administrative and managerial; clerical; sales; and production. Job classifications range from cleaning worker to manager. Countries included are Belgium, France, Germany, the Netherlands, the United Kingdom, Switzerland, Italy, Sweden, Portugal and Spain.

Write: Business International, One Dag Hammarskjold Plaza, New York, N.Y. 10017.

Economic Survey for Canada. Published by the Organization for Economic Cooperation and Development. 46pp. $1.25.

This survey is mainly devoted to the inflation problem, which has assumed increasingly serious proportions in all OECD countries. Part I reviews Canada's price performance over the last three business cycles, and attempts to identify the main forces behind the acceleration of inflation. Part II reviews recent stabilization policies and discusses the short-term price and employment outlook. Part III considers medium-term prospects and conditions for regaining a higher degree of price stability and summarizes the main policy issues and conclusions.

Write: OECD Publications Center, Suite 1207, 1750 Penn. Ave., NW., Washington, D.C. 20006.

Doing Business With China: American Trade Opportunities in the 1970's. Edited by William W. Whitson. 593pp. $25.

This is a market survey of prospects for the sale of American products in more than 25 industries and trade categories to the People's Republic of China. Outlines steps designed to aid management in approaching trade with China at the least cost in money and executive time.

Write: Praeger Publishers, 111 Fourth Ave., New York, N.Y. 10003.

World Bank "Atlas." Eighth Annual Edition. 15pp. Free.

This pamphlet summarizes gross national product, population and growth rate statistics by country.

According to the World Bank, this 1973 version confirms impressions conveyed in earlier editions. Real growth has continued in the developing world, in many cases at a rate equal to or greater than in the more developed countries. However, rapid population growth still prevails in large areas, and disparities in per capita income between rich and poor countries continue to increase.

Write: World Bank, 1818 H St., NW., Washington, D.C. 20433.

Ocean Freight Rate Guidelines for Shippers. Published by the U.S. Department of Commerce and the Federal Maritime Commission. 65pp. 75¢.

This booklet is designed to acquaint exporters with some of the considerations to be weighed when evaluating costs associated with transporting goods by vessel. It makes no attempt to cite or even to estimate specific costs, but rather describes the various elements related to the transportation process that should be taken into account when pricing goods for export.

Write: Superintendent of of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

The Current Economic Position and Prospects of Peru. Published by the International Bank for Reconstruction and Development. 219pp. $3.

This report examines Peru's overall development strategy, the strains on the commodity market, agriculture and mining policies, and problems of economic management.

Write: Publications Office, World Bank, 1818 H St., N.W., Washington, D.C. 20433.

Calendar For World Traders

April 2-3 — Nashville — First Tennessee International Trade Conference, Hilton Airport Inn. Sponsors: Tennessee Department of Economic and Community Development, Memphis District Office.

April 3 — Dubuque, Iowa — Export Marketing Workshop, Julian Motor Inn. Sponsors: Iowa Development Commission, Iowa Regional Export Expansion Council, Small Business Administration.

April 4 — Davenport, Iowa — Export Marketing Workshop, Clayton House.

April 4 — New York — Luncheon meeting of the International Industrial Marketing Club, at the Chemists Club. John P. Kinnane, of Crane Co., will discuss his recent trip to Latin America.

April 10 — New York — The Arab World and its Impact on World Trade, An Arab View, Summit Hotel. Speaker: Richard Jaffar Zakka. Sponsored by International Executives Assn.

April 10 — New York — FCIB Publishers Export Credit Group luncheon meeting, Advertising Club.

April 11 — New York — Overseas Automotive Club luncheon meeting, Summit Hotel.

April 16 — New York — FCIB Hardware-Automotive & Allied Trades Group luncheon meeting, Advertising Club.

April 16 — Louisville—Kentuckiana World Commerce Council Meeting, Holiday Inn, Brownsboro East. Speaker: J. Mishell George of Commerce's Bureau of East-West Trade.

April 16 — Memphis — Memphis World Trade Club, Southwestern Univ.

April 18 — New York — International Business Experience under Floating Exchange Rates, 32 West 40th St. Speaker: Robert B. Fitzsimmons, vice president, Bank of America. Sponsored by International Study and Research Institute.

April 18 — Burlington, Iowa — Export Marketing Workshop, Holiday Inn.

April 30-May 1 — New York — Conference on Improving Your International Performance, Potential and Profit, Statler Hilton. Annual conference of International Executives Assn.

May 1-3 — New York — Program on Foreign Tax Credit, World Trade Institute.

May 2-3 — New York — Program on Transportation and Distribution in Europe, World Trade Institute.

Worldwide Business Services

International trade specialists in the Department of Commerce and Foreign Service Officers in the U.S. Embassies and Consulates around the world are continually developing specific commercial opportunities through which American companies can find buyers, agents, partners or investors overseas. One of the major means for communicating these opportunities promptly and accurately to the U.S. business community is through the columns of this magazine.

The section that follows presents details about U.S.-sponsored overseas exhibits, licensing and joint venture proposals, opportunities to sell to foreign firms and government agencies and appoint agents, and details on major construction and expansion projects.

U.S. Promotions Overseas

Harbor & Dockside Equipment (JEEP). Singapore Trade Center. May 8-10. Singapore is the fourth largest port in the world in terms of tonnage handled. Ten ships enter or leave the port every 15 minutes. As a natural corollary, Singapore is striving to become a major center of shipbuilding and repair. This exhibition is limited to new-to-market U.S. participants and is designed to put them in contact with potential representatives that can handle sales on a continuing basis. Call your nearest U.S. Department of Commerce District Office or George Dolan, 415-556-5866, for further information.

Process Control Instrumentation Exhibition. Buenos Aires Trade Center. May 13-17. Argentine imports of process control instruments grew from $8.1 million in 1969 to $15 million in 1972. Expansion projects, modernization and replacement needs are expected to generate active demand for imports of process control instruments. The United States is the leading supplier of process control instruments, with 50 percent of the import market. Call George Pollard, 202-967-5010.

Interschul—Educational Materials Catalog Show. Dortmond, Germany. May 18-25. The educational budget for West Germany is expected to approach 6 percent of GNP by 1975, as $16 billion worth of systems and equipment will be required to accommodate increased student enrollment. This Catalog Show will be held as part of a major international fair which will provide increased exposure and sales opportunities for U.S. suppliers. Call Robert E. Peterson, 202-967-3973.

Hospital and Medical Equipment Catalog Show. Lagos. May 20-24. The hospital and medical services field in Nigeria is rapidly expanding and should continue this growth through 1980, especially in view of the recently approved "Third Development Plan." A Commerce-sponsored Hospital-Medical Trade Mission to this country in 1973 was extremely successful in generating immediate sales of U.S.-source products, due to their price competitiveness and continued good quality. Nigeria's strong economy, substantial foreign exchange reserves, and favorable commercial climate make this one of the most attractive markets in Africa. Call Robert E. Peterson, 202-967-3973.

Petroleum Equipment and Process Control Instrumentation Catalog Exhibit. Amsterdam. May 28-June 2. This exhibit, part of PETROTECH-74 (International Exhibition & Congress for Petroleum Technology), will include catalogs from U.S. firms manufacturing machinery and equipment for the petroleum industry—including pollution control equipment. The demand for U.S. equipment is great, and the exhibit offers an excellent opportunity for exposure. Call Robert E. Peterson, 202-967-3973.

Textile Machinery and Equipment Trade Mission to Brazil, Venezuela and Colombia. June 1-14. Increasing emphasis on modernization and expansion of plant facilities make these three countries excellent markets for U.S. source equipment, material and know-how. Brazil, especially, is refurbishing plant facilities in order to increase export capabilities within Latin America. Call Herb Socks, 202-967-3846.

Numerical Control Machine Tools and Related Equipment Exhibition (JEEP). Buenos Aires Trade Center. June 3-7. Argentine manufacturers have become increasingly aware of numerical control machine tools as a means of improving the quality and exportability of their products. There is no local production of numerical control machine tools. Manufacturers of components and equipment essential for the servicing of these machines are also invited. For details call Vicky Eicher, 202-967-4580.

Posidonia Fair—Business Automation and Materials Handling Equipment for Shipping Industry: Ship Building and Repairing Material. Catalog Exhibit. Athens. June 3-9. Shipping is one of Greece's major industries and since 1967 has been undergoing continued expansion. Today, tonnage of the Greek merchant fleet is approximately 40 million tons and the number of vessels over 4,300. Funding, insurance and tax incentives have been granted local industry to encourage establishment of offices and facilities along with expansion. This Catalog Show will be held as part of Posidonia's International Shipping Exhibition. Call Robbert E. Peterson, 202-967-3973.

Biomedical Equipment Exhibition/Symposium. Milan Trade Center. June 4-8. The Italian biomedical equipment market is growing 14 percent a year and the U.S. share is increasing. Opportunities are especially good for U.S. manufacturers of implantable pacemakers, I.P.P.B. respirators, pediatric respirators, artificial kidneys, gamma cameras, electronic blood cell counters, automated sample analyzers, echoencephalographs, surgical pacemakers, spectrophotometers and other diagnostic equipment. Contact nearest District Office or call Sam Spaulding, 202-967-4508.

Computer Software Trade Mission, to Belgium, the Netherlands, and West Germany. June 13-27. Rescheduled from its earlier date, this mission has now been expanded to include stops in Brussels, Amsterdam, Dusseldorf, and Frankfurt. These cities offer expanding software markets, with combined sales of over $190 million in 1973 and a market growth which has averaged 25 to 30 percent annually. Opportunities exist for identification, utility and application packages, as rising labor rates and changing energy supplies force greater automation and more sophisticated use of existing installations. Call Wanda Ale, 202-967-3119.

Food Processing and Packaging Equipment Trade Mission, Israel, Cyprus and Turkey. June 14-29. Total imports of this equipment exceed $100 million annually and should continue to rise. Israel is expected to be the world's fifth largest importer of food processing and packaging equipment by 1975. Types of foods grown cover the spectrum from temperate zone to tropical. Call Richard Eisenmann, 202-967-3746.

Apparelequip-74, Apparel Manufacturing Equipment (JEEP) Exhibition. Tehran Trade Center. June 15-19. Iran presently imports millions of dollars worth of ready-to-wear apparel from Europe and the United States. Since Iran already has a well-established textile industry, the government views this as an unnecessary diversion of foreign exchange. In line with Iran's industrialization efforts, therefore, it has begun efforts to build up a domestic apparel manufacturing industry. This exhibition is limited to new-to-market U.S. participants and is designed to put them in contact with potential representatives that can handle sales on a continuing basis. Call Don Ryan, 202-967-5506.

Aviation Ground Support Equipment & Aircraft Services Exhibition. Singapore Trade Center. June 17-21. The timing is appropriate for expanded U.S. initiatives to sell aviation support equipment in this market. At the present time the entire Singapore marketing area is experiencing an economic boom. The region is industrializing and enjoying high rates of foreign and domestic investment. Tourism is on the increase, and demand for air travel and air freight is growing faster than in any other part of the world. Call Lee Barnes, 202-967-5545.

Telecommunications Equipment. Mexico City Trade Center. June 24-28. The Mexican Government has placed high priority in its overall economic development plan on improvement and extension of telecommunications facilities, from provision of telephone links to rural villages to installation of sophisticated avionics systems. Furthermore, the larger private firms are considering installation or expansion of their own telecommunications systems. Mexico's consumption of this equipment has been growing about 17 percent annually. A full 60 percent must be imported. Call Porter Clary, 202-967-5040.

Food Processing Machinery and Equipment. Buenos Aires Trade Center. June 24-28. The Argentine market continues to need items incorporating the latest processing techniques, but not necessarily high volume equipment. Special interest items include processing machinery and equipment for the fishing, meat, wine and fruit and vegetable industries. Call Carolee Heileman, 202-967-2322.

Laser, Electro-Optical and Photographic Systems. Stockholm Trade Center. June 24-28. The Nordic countries represent a growing market for American optics-related instruments, systems and components. In

1972 U.S. suppliers exported $12 million worth of these products to Denmark, Finland, Norway and Sweden. Call Cliff Stanley, 202-967-4461.

Printing and Graphic Arts Equipment Catalog Exhibition. Hong Kong, Taiwan, Thailand. July 9-25. Local printing and graphic arts industries in these nations are expanding rapidly, causing many firms to upgrade the quality of their operations to remain competitive. Recent currency revaluations and the recognized high quality of U.S. machinery and materials contribute to making this area of the world, and especially these markets, most favorable for U.S. suppliers. Call Robert E. Peterson, 202-967-3973.

Automotive Parts, Tokyo Trade Center. July 22-26. The Japanese auto industry is actively looking for U.S. sources of auto parts and accessories to be incorporated in their cars and trucks. Rapidly rising prices and uncertain supplies of Japanese-made components may result in many large volume, long-term contracts between American original equipment manufacturers and the 11 Japanese automobile manufacturers who make up the second largest auto industry in the world. Contact Randall Miller, 202-967-2709.

Shoemaking and Leather Goods Machinery and Equipment. Buenos Aires Trade Center. July 22-26. The Argentine shoe manufacturing industry is highly atomized and undercapitalized and in need of modernizing its basic equipment. It has, however, the advantages of access to a large, steady domestic supply of high-quality leather, and lower labor costs than those prevailing in the European and Brazilian shoemaking industries. If the current trend of increasing foreign demand for Argentine shoes continues this year, the Argentine shoe industry will be forced to expand and upgrade its production facilities. Investment over the next three years for new equipment could range from $6 million to $10 million, most of which will have to be imported. Local equipment manufacturers cannot supply more than a fraction of the potential demand for new machinery. Display equipment for this exhibition must be 100 percent U.S. origin. Call Vicky Eicher, 202-967-4580.

Analytical and Laboratory Instruments Catalog Exhibitions. Malaysia, Philippines, Singapore. July 24-Aug. 7. Implementation of plans for product improvement and reduction of labor costs, in the rapidly expanding industrial sectors of these nations, has created a growing market for analytical laboratory instrumentation. Call Robert E. Peterson, 202-967-3973.

Hotel and Restaurant Catering Equipment Catalog Exhibition. Lesotho and Swaziland. August. Lesotho and Swaziland are two of the newest, fastest-growing vacation areas in Africa, and attract thousands of tourists year-round. This introductory trade promotional activity is geared to help meet the growing demands of this area's burgeoning tourist industry. Call Robert E. Peterson, 202-967-3973.

Printing and Graphic Arts Equipment. Mexico City Trade Center. Aug. 5-9. The Mexican market for printing and graphic arts equipment grew 10 percent in 1972. The U.S. share of the market was 57 percent and the recent monetary realignment increases the attractiveness of high quality, U.S.-manufactured goods. The outlook is for continued growth and increased imports during the next five years. Call Porter Clary, 202-967-5040.

Computers and Information Processing Catalog Show. Stockholm. Aug. 5-10. The International Federation of Information Processing Congress and Exhibition, held in Stockholm, will provide U.S. firms with an ideal marketing opportunity to gain wide exposure in the Northern European area. The Swedish market for computers and related equipment is strong. Sales activity there is expected to exceed $245 million by 1977. Some 90 percent of this will probably be imports. Call Robert E. Peterson, 202-967-3973.

U.S. Agricultural and Farm Equipment Trade Mission, Brazil and Paraguay. Aug. 5-16. Agricultural exports accounted for 50 percent of Brazil's and over 80 percent of Paraguay's total exports in 1973. The high priority these countries continue to give to increasing agricultural production and product processing—both for export and domestic consumption—represents a significant marketing opportunity for U.S. manufacturers of grain and field crop planting, harvesting and storage equipment, feeding and handling equipment for livestock and poultry, dairy equipment, and crop service equipment for spraying and dusting. Call Donald McClenny, 214-749-1515.

U.S. Textiles Exhibition. Sydney Trade Center, Aug. 6-8 and Melbourne, Aug. 13-15. This tandem exhibition will provide U.S. manufacturers a unique opportunity to either expand sales or enter the important Australian textile market, which is continuing to expand at a rapid rate. Textile imports have increased from $260 million in 1968 to over $461 million in 1973. Due mainly to extreme worldwide material shortages, traditional Australian buying patterns have undergone considerable change. This factor, accompanied by both the Australian and U.S. currency adjustments and unilateral Australian tariff reductions, has created an overwhelming preference for U.S. textiles. Contact John Klingelhut, 202-967-3646.

Electronic Data Processing Equipment, Related Business Equipment and Systems. Singapore Regional Trade Center. Aug. 19-23. Singapore, the commercial/financial center of Southeast Asia in addition to its growing entrepot economy, is emphasizing increased industrialization. Because of this, Singapore's demand for high-speed data handling and the most modern business methods is burgeoning almost as fast as its economy, which boasts 10 percent-plus growth rates for the last several years. This demand prompted the U.S. Regional Trade Center in Singapore to mount a major exhibition featuring this equipment. Participation is limited. Contact your nearest Commerce District Office or Peter M. Dunlap, Washington, D.C. Coordinator, 202-967-5545.

Plovdiv Fair—U.S. Exhibition of Modern American Agriculture Technology. Plovdiv, Bulgaria. Sept. 3-10. The U.S. pavilion will contain agricultural exhibits covering tractors, harvestors, agricultural chemicals, irrigation equipment, milking machines, fruit and vegetable pickers, tobacco processing equipment, planters, etc. The pavilion will house both indoor and outdoor display space. Plan is for 20-25 exhibitors. Contact Paul M. Terlizzi, 202-967-5163.

Polymery-74—Foreign Exhibition for the Plastics Industry. Moscow. Sept. 3-16. The Soviet Five-Year Plan targets investments for the petrochemical industry at 4.2 billion rubles in 1974 and 4.7 billion in 1975. Soviet-built equipment for the plastics industry has proven inadequate in terms of variety, quantity, and technology. Soviet imports of equipment, processes, and technology for the petrochemical industry jumped 10 percent in 1971 and 56 percent in 1972. Call Jim Robb, 202-967-4810.

Educational Communications Systems. Stockholm Trade Center. Sept. 9-13. Market research surveys indicate great interest by the Scandinavians in U.S. technology in education communication systems. An extensive promotion campaign will be conducted in the four Scandinavian countries to insure attendance of key decision makers, buyers and training professionals. Call Willian Beiring, 202-967-3276.

Advanced Fluid Power Equipment. Tokyo Trade Center. Sept. 9-14. The fluid power equipment market in Japan recorded an annual average 30 percent rate of growth through the decade of the 1960's. A high level of demand for advanced fluid power equipment including water-cooled and oilless compressors, quick-connect couplings, level and pressure gauges and intensifiers is expected to continue through 1977. Sales of U.S.-manufactured air and hydraulic motors, nervosystems and servovalves, actuators and hydrostatic transmissions as well as fluid power equipment for the aerospace industry are also expected to increase dramatically in the coming 24 months. Contact Ray Alvarez, 202-967-2461.

Pollution Control Systems and Equipment Catalog Exhibition. Paris. Sept. 10-14. The French Government, becoming increasingly aware of the pollution control problem, has established regulations which have generated a growing market for pollution control systems and equipment. Imports in this field are expected to exceed $85 million for the 1974-1975 period. This catalog exhibition will be held as part of a major French exhibition — Environment Expo '74 — Man, Air and Water—and should prove beneficial to U.S. companies which have appropriate equipment and systems for the pollution control and solid waste disposal requirements. Call Robert E. Peterson, 202-967-3973.

Business Machines and Office Equipment.—BUREAU '74—Brussels. Sept. 10-18. An exceptional marketing opportunity is being offered to U.S. producers by this 20th biennial international show. During the past five years, there has been a rapid increase in the number of offices and modern retail facilities in Belgium, as Brussels acquires increasing importance as the developing capital of Europe. Economic growth trends in Belgium are expected to continue to rise, ensuring a favorable market. Call Bobette P. Heien, 202-967-3848.

16th Brno International Engineering Fair. Brno, Czechoslovakia. Sept. 11-19. The U.S. Exhibition theme will be "Electronic Data Processing" and will feature computers, peripherals, calculators, office machines, and electronic data processing equipment including software. Market research estimates that Western sales potential for EDP equipment over the next three years (1974-1976) is $42-52 million, with approximately $14-17 million in 1975. The U.S. exhibition will be limited to 20 exhibitors. Call Paul M. Terlizzi, 202-967-5163.

Industrial and Commercial Security Equipment. Paris Trade Center. Sept. 16-20. American manufacturers and suppliers of security equipment for fire protection and extinction, burglary and pilferage detection and prevention, access controls and communications equipment have growing opportunities to sell to French buyers. Rising theft and crime, special fire protection legislation and generous discounts on insurance premiums for adequately protected premises are compelling companies to consider protective security devices. Firms taking part will benefit from a market promotion campaign to attract buyers, agents and distributors. Contact Charles M. Whitley, 202-967-5381.

Sales opportunities in 9 U.S. commercial exhibitions, 9 catalog exhibitions, 33 shows at U.S. Trade Centers and 4 trade missions are being offered to present and potential U.S. exporters between now and December.

Each Trade Center exhibition is limited to one particular line of products and centers are located in Beirut, Buenos Aires, Frankfurt, London, Mexico City, Milan, Paris, Seoul, Singapore, Stockholm, Sydney, Taipei, Tehran, and Tokyo. For further information on the Trade Center shows described or for more facts on U.S. exhibitions, **write:** *Director, Office of International Marketing, Room 4015, U.S. Department of Commerce, Washington, D.C. 20230.*

U.S. specialized trade missions and technical seminars are comprised of groups of U.S. businessmen organized by the U.S. Department of Commerce to travel abroad to promote the export of U.S. goods and services produced by their particular industry. **Write:** *Trade Missions, Room 4219, U.S. Department of Commerce, Washington, D.C. 20230.*

Business Automation Equipment (JEEP). Milan Trade Center. Sept. 20-25. In 1973 the demand for business automation equipment in Italy was $480 million and by 1976 is expected to exceed $900 million. Emphasized will be accounting and bookkeeping systems; desk-top and mini-computers; high-speed copiers; microfilm equipment including retrieval, storage and filing; computer cash registers and terminals; punched tape and magnetic tape billing and invoicing machines; microfiche; computer terminals with business applications. Call Peter Wilson, 202-967-2434.

Electronics Industry Production and Test Equipment and Electronic Components Equipment. Regional Trade Center, Singapore. Sept. 23-27. Market research in Singapore, Malaysia, Indonesia, and Thailand indicates highest potential for sustained growth in exports offering favorable opportunities for U.S. manufacturers of such equipment and components. Participation is limited. Contact Peter M. Dunlap, 202-967-5545.

Maritime-USA—Exhibition and Technical Seminar featuring Shipboard, Port Cargo Handling and Harbor Development Equipment, Systems and Engineering Services. Taipei Trade Center. Sept. 23-27. With the worldwide demand for shipping at an all-time high, Taiwan has undertaken a major expansion of its shipbuilding industry. This and rapidly growing trade volume have resulted in overtaxed port facilities and a critical need for major improvements and expansion of present harbor and dockside operations. Tonnage passing through Taiwan's ports increased 18 percent a year from 1968 through 1971, jumped an additional 25 percent in 1972, and rose a phenomenal 40 percent during the first half of 1973. The ports of Keelung and Kaohsiung alone accounted for 37.5 million metric tons of cargo during the first nine months of 1973, which exceeded their 1972 year's total of 36 million M/T. Products to be exhibited include anti-corrosion finishes and applications equipment; anti-pollution equipment; cargo documentation and control systems and specialized equipment; cargo handling gear; communications, instrumentation, navigational and safety equipment; engine room, galley, crew quarters and deck machinery and equipment; commercial refrigeration systems. In addition, qualified naval architects, consultants, engineers and harbor development contractors are invited to participate. Call Dave Horridge, 202-967-2798 or 4227.

Biomedical Equipment. Frankfurt and Paris Trade Centers. Sept. 30-Oct. 3, and Oct. 8-11, respectively. This tandem scheduling gives U.S. firms the opportunity to participate in either or both events. The biomedical market in France is growing rapidly. The U.S. supplies about one-sixth of French imports and one-third of Germany's in this field. Opportunities are especially good for U.S. manufacturers of cardiac output analyzers/computers, implantable pacemakers, electro- and phono-cardiographs, positive pressure breathing apparatus, nebulizers, echoencephalographs, cystic fibrosis analyzers, monitors, gamma scintillation cameras, oxygen flowmeters, chromatographs, automated blood cell counters, atomic absorption/emission spectrophotometers, spectrofluorometers, and a wide variety of other such equipment. Call Bob Wallace, 202-967-3748.

Offshore International. Olympia, London. Oct. 7-11. This exhibition, being held in cooperation with Industrial Trade Fairs, Ltd., is designed to bring U.S. goods and services to the emerging European offshore market for oil and natural gas exploration and production, but especially to ongoing activities in the North Sea and adjacent maritime areas West and South of Britain and Ireland. The projected value of North Sea capital investment in 1973 was estimated at $480 million. The projected value in the latter 1970's should total $1.4 billion with the U.K. shelf area share at $720 million. Contact C. Edward Walls, 202-967-4256.

Pharmaceutical and Cosmetic Manufacturing Equipment and Materials Exhibition. Milan Trade Center. Oct. 8-12. The pharmaceutical and cosmetic industries represent a major sector of the Italian economy as indicated by production figures that totaled over $2 billion in 1973. These industries are projected to expand at an average annual rate of 8.8 percent. U.S. manufacturers of production and packaging equipment and raw materials and substances will find a ready market for their products in Italy. This exhibition has been timed to coincide with the International Chemical Engineering Exhibition (MAC '74) on the adjacent Milan Fairgrounds. Contact Beryl D. Cohen, 202-967-4508 or William S. Gaines, 202-967-3822.

Bucharest International Fair. Bucharest, Romania. Oct. 13-22. The U.S. exhibition theme, Industrial Process Instrumentation and Control, will feature equipment from simple temperature indication to the sophistication of on-line digital and analog computing and will cover such process industries as chemical, pulp and paper, petrochemical, plastics, ceramics, textiles, mining, rubber, etc. In addition, the exhibition will include remote control valves, pumps, and proportioning equipment as used individually or in a system. Call Paul M. Terlizzi, 202-967-5163.

Refrigeration Equipment and Machinery for the Food Industry. Tokyo Trade Center. Oct. 14-19. The Japanese market for cold chain equipment, including environmental control instrumentation and equipment, food products industry and packaging equipment, and materials handling equipment, is growing at an average annual rate of 35 percent, from $974 million in 1971 to over $2 billion by 1974. Japan purchased from overseas sources in 1971 40 percent (i.e., $37 million) of total consumption of refrigeration equipment and machinery; the U.S. share of these imports was 50 percent. In 1974, Japan will import approximately $80 million of this equipment, of which the United States will supply $42 million. Call John Wolf, 202-967-4056.

Automechanika '74—International Exhibition for Motor, Workshop and Service Station Equipment. Frankfurt. Oct. 18-22. The U.S. pavilion will offer American manufacturers of automotive maintenance and service equipment and parts and accessories an excellent opportunity to exhibit and sell their products at the largest event of its type in Europe. Call Bill Dawson, 202-967-4941.

Machine Tools Exhibition. Mexico City Trade Center. Oct. 21-25. Imports of metalworking equipment from the United States are expected to increase substantially. The overall market potential for metalworking machine tools and metal finishing equipment for metal parts has been forecast to reach $102 million, a compound rate of 8 percent annually, by 1978, despite growing local production. Call Mary Wiening, 202-967-5037.

Projekt 2000—International Trade Fair on Pollution Control. Graz, Austria. Oct. 23-26. American manufacturers and suppliers of equipment for the control of air and water pollution, noise abatement, sewage treatment, solid waste disposal, and radiation control have a special opportunity to gain increased sales throughout Europe by exhibiting in the U.S. pavilion. Trade visitors from the governmental buying units of Eastern Europe concerned with environmental protection will be in heavy attendance. Call David Katz, 202-967-3748.

Advanced Educational and Training Aids (JEEP). Tokyo Trade Center. Oct. 24-26. With a population of 109 million people and a school attendance of over 95 percent, improved techniques and equipment for Japan's educational systems are constantly being sought. In addition, Japanese businesses actively try to provide training opportunities for their employees. There is, therefore, an active market for industrial training equipment and new learning techniques. This exhibition is limited to new-to-market U.S. participants and is designed to put them in contact with potential representatives who can handle sales on a continuing basis. Call John Wolf, 202-967-4056.

Building Products and Construction Equipment. Stockholm and Paris Trade Centers. Oct. 28-31 and Nov. 5-8, respectively. Commerce is offering manufacturers and suppliers of building products and construction equipment a splendid opportunity to gain increased sales in France and Scandinavia by exhibiting at one or both of these shows. France, which has the fastest growing economy in Western Europe, and the Scandinavian countries of Sweden, Norway, Denmark, and Finland, offer bright prospects for sale of U.S. products in the building field. Call Andre Williams, 202-967-5381.

Noise and Vibration Control Equipment (JEEP). Tokyo Trade Center. Oct. 29-31. Public awareness of noise and vibration as a disturbing element in the environment has been increasing in Japan. U.S. companies which manufacture pollution control equipment for noise and vibration problems and are new-to-the-market in Japan will benefit from this promotion. Call Robert Levine, 202-967-4056.

Pharmaceutical Production Equipment Exhibition. Mexico City Trade Center. Nov.

11-15. Strongly expanding Mexican Government medical care programs as well as stricter controls in production and quality required from local laboratories offer good opportunities to U.S. suppliers of machinery, equipment and instrumentation used in the pharmaceutical industry. The U.S. share of total imports is about 70 percent and a majority of local needs must be imported. Call Mary Wiening, 202-967-5037.

Industrial Process Control Exhibition. Milan Trade Center. Nov. 13-17. A recent market study reveals high potential sales for American products for industrial control devices, instrumentation and minicomputers. This is planned to run concurrently with BIAS, the large international automation and instrumentation exhibition on the Milan Fairgrounds. Call Sam Spaulding, 202-967-4508.

Audio-Visual Educational Aids Exhibition. Tehran Trade Center. Nov. 16-20. Market research points to a booming market in Iran for audio-visual educational materials during the next several years. The Iranian Fifth Development Plan (1973-77) calls for more than $6 billion to be spent on education, particularly teacher training, technical and vocational training, and primary and adult education. The plan period will see 391,000 new students entering kindergarten throughout the country. Call Don Ryan, 202-967-5506.

Electronica 74, Munich, Germany. Nov. 21-27. Commerce will have an American trade section at this major event, the world's largest trade fair for the electronics industry, covering electronic components, test and measuring instruments, and production equipment for the electronics industry. Phenomenal results by U.S. participants at the last Electronica plus recent market information indicates outstanding success for exhibitors in the American section of this show. Call nearest Commerce District Office.

Minicomputers and Peripherals. Paris Trade Center and Frankfurt Trade Center. Nov. 25-28 and Dec. 3-6, respectively. Commerce is sponsoring these two exhibitions to facilitate participation in both; however, an exhibitor may elect to participate in either one. The outlook for sales of minicomputers in both France and Germany during the 1973-77 period is extremely favorable. Participants in previous exhibitions of this type have reported excellent results and market research indicates the potential to exceed even these successes. Call Don Schmadel, 202-967-2177.

German Firm Offers Services In Exporting To East Bloc

The German barter-switch trading house, Kieling & Co. of Bremen, reported to have more than 20 years experience in trade with East Bloc countries, has prepared a list of products with sales potential in the USSR and Eastern European countries for companies wanting to utilize Kieling's expertise and bartering capabilities in exporting there.

Interested companies may write Kieling & Co. directly at Martinistrasse 24, P.O. Box 318, Bremen, or call Alan Lewis of the Commerce Department's Bureau of East-West Trade, Trade Development Assistance Division, at 202-967-3969. Companies corresponding with Kieling which have little or no prior East-West trade experience are encouraged to maintain parallel contact with the Commerce Department.

Licensing, Investment Abroad

Licensing and investment proposals from foreign firms are listed in these columns. Specific product interests in each proposal are highlighted in bold type to facilitate identification and each proposal is preceded by the appropriate four-digit product number taken from the Standard Industrial Classification (SIC) Manual.

Background information on opportunities abroad and assistance on overseas investments are available from the Foreign Investment Services Staff, U.S. Department of Commerce, Washington, D.C. 20230. "P" numbers should be used when responding to specific proposals.

WTDR indicates that a World Traders Data Report containing financial and background information on the foreign firm is available for $15 from the Export Information Division, Room 1313, U.S. Department of Commerce, Washington, D.C. 20230, or from any Commerce Office.

OPIC indicates that the country involved is eligible for investment insurance coverage written by the Overseas Private Investment Corporation. Information regarding applicable coverage may be obtained from OPIC, Washington, D.C. 20527.

FRANCE—Firm seeks licensing rights for manufacture and sale in Europe of **"sales premiums" (advertising specialities)** made of etched, pressed, blown or painted glass or of molded or injected plastics. Sale organization covers the Common Market countries with annual sales of $5 million in plate and rolled glasswares and $500,000 in sales premium and other advertising items. Affiliated with Saint Gobain & Boussois, leading French glass producers. Albert Gerrer, S.A., 4, rue des Verriers, 68200 Mulhouse, France. P-74159.

1021, 1044, 1061, 1092, 1099—BOLIVIA—Seeks joint venture partners to **explore and produce from mineral deposits, including one copper and silver find near La Paz city, one mercury deposit and various tin and tungsten mines.** Also, various other mines of different minerals. Firm reports it has exploitation rights and estimates that investment ranges from $100,000 to over $2 million depending on each case. Rivek, Ricardo Velasco Kruger & Associates, P.O. Box 5797, La Paz, Bolivia. WTDR. P-74155. OPIC.

2024 — LEBANON — A Lebanese family company wishes to manufacture and distribute **quality soft and/or hard ice cream.** Company currently bottles soft drinks for several U.S. firms. A licensing or franchise arrangement is sought. A principal of the Lebanese concern plans to visit the United States in May for discussions with interested American firms. Foreign Investment Services Staff, Office of Export Development, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. WTDR. P-74164.

2200 — TANZANIA — U.S. investment is sought by a government corporation in the following mills now being planned: **a spinning mill with 50,000 spindels; an integrated spinning mill with 50,000 spindels and weaving capacity to balance spinning capacity.** Although the corporation favors an arrangement where a U.S. company held one-fourth to one-third equity together with a long-term management agreement, all types of proposals will be considered. Corporation owns all major textile mills, including kenaf and sisal bag manufacturing plants, and is exclusive wholesaler of textiles in the domestic market. An ample supply of cotton is available in Tanzania. Nominal imports of synthetics would be required. Additional information is available from the Foreign Investment Services Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-74143. OPIC.

2500—FRANCE—One of the largest manufacturers of **wooden and plastic household furniture** is seeking licensing rights for new techniques and processes for manufacture of wooden and plastic furniture. Also interested in offers for new machinery and equipment which will improve productivity. Foreign Investment Services Staff, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-74142.

2522, 2542—BRAZIL—Seeks U.S. joint venture partner to expand plants currently making complete line of **steel furniture** for offices and hospitals, **steel adjustable shelving** and **special purpose steel furniture.** Foreign equity needed estimated to be $350,000. Firm founded in 1956, employs 100 factory workers, has sales of 1 million annually. Recent company market survey estimated potential sales of about $3 million in its territory, Brazil's center-south region and the Amazon area. IMACO S.A. Industria, Comercio e Representacoes de Moveis de Aco, Avenida Governador Jose Malcher 848, Belem, Para, Brazil. Correspondence may be in English. WTDR. P-74165. OPIC.

3079 — ISRAEL — Seeks know-how through joint venture or licenses to manufacture **plastic impact sprinklers** with a discharge rate of 500 liters and more per hour. Firm has developed a patent for such a sprinkler, but needs production technology using plastic. Company established in 1971, currently makes self-adjusting swivel type sprinklers for irrigating orchards and gardens. Exports widely, has annual sales of about $475,000. Dan Sprinklers, Sprinklers & Irrigation Equipment of Kibbutz Dan, Upper Galilee, Israel. P-74160. OPIC.

3079, 2385, 3842—SWITZERLAND—Seeks licenses to manufacture **PVC** and/or **polyethylene film packaging items** such as bags for department and dairy stores; also **disposable surgical supplies** such as gloves; also **light transparent protective clothing.** Firm has 200 employees and is a main supplier of the above items to department stores, hospitals, industrial and military installations. Hans Eigenmann, HWB Kunststoffwerke, H. Weiss-Buob, AG, 9427, Wolfhalden, Switzerland. P-74154.

3241 — BOTSWANA — Botswana Development Corporation (shares wholly owned by government) seeks a joint venture with a U.S. firm for construction of a 100,000 ton **cement plant.** Corporation is prepared to provide a substantial minority portion of the capital required. For full details, write Foreign Investment Services Staff, Office of Export Development, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-74158. OPIC.

3241—ISRAEL—Seeks technical assistance through a licensing or joint venture arrangement for construction of a **cement plant** with an annual capacity of 900,000 tons.

Project to be financed by local and foreign capital and Israel Government development loans. For further information write Foreign Investment Services Staff, Office of Export Development, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-74157. OPIC.

3411, 3441, 3499—THE NETHERLANDS—Seeks 100 percent buyer or joint venture partner or licensor for three currently operating **metal working plants** in The Netherlands. Owners prepared to provide technical, marketing and labor relations assistance to investors. Operations suitable for these plants include (plant A) steel fabrication and erection; (plant B) manufacture of containers, cranes, trailers, and metal furniture; and (plant C) assembly and/or manufacture of medium to heavy equipment. Plants are also suitable for distribution and service functions. Interested investors should contact firm's representative, Donald Deaves, 24 Tollenaersingel, Leiderdorp, Netherlands. WTDR. P-74163.

3500—FRANCE—Large conglomerate seeks manufacturing rights for equipment for use in the **chemical plastic, rubber and pulp and paper industries.** Product interests include **tubular heat exchangers, gas scrubbers, homogenizers, mixers, polymerizers, autoclaves, centrifuge machines and related equipment.** Would be fabricated out of stainless, carbon and clad steel. Firm is involved principally in such metal oriented activities as precision metallurgy, forging, tool making and foundry operations. Also produces power generators, transportation equipment, printing machinery, hydraulic presses and materials handling equipment. Company operates 20 plants in France and employs 34,000. It reports annual sales of $600 million. Louis Gonard, Commercial Manager, Creusot-Loire Division G3C, 42701 Firminy, France. Copies of firm's product brochures are available on loan from the Foreign Investment Services Staff, Office of Export Development, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. WTDR. P-74147.

3500—MALTA—Automobile assembler seeks joint venture to manufacture additional products. Interests include **electric fans, tractors, agricultural machinery, hand tools, electric heaters for domestic and industrial use, telecommunication and air conditioning equipment and electrical appliances.** Production would be exported to Europe and North Africa. Firm has plant floor space of 60,000 sq. ft., plus storage and administrative area. Employs 100, and has all necessary equipment for assembling motor vehicles. Is part of a major group with wide range of business interests. Seeks technical know-how, capital participation from U.S. firm. Gordon Mizzi, managing director, Car Assembly Ltd. (CAL), Marsa, Malta. Further details available from Foreign Investment Services Staff, Office of Export Development, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-74144. OPIC.

3534 — ARGENTINA — Large firm seeks license to produce **hydraulic hoists.** Company has 20 years' experience in production of precision parts for automotive industry. Has begun making small hydraulic cranes and personnel elevators for truck mounting. Company has well established distribution network throughout Argentina and exports to neighboring markets. Bertolina Hnos., S.A., Gral Sandino 239, Cordoba, Provincia de Cordoba, Argentina. P-74153. OPIC.

3540—TURKEY — Machinery manufacturer seeks license, possibly capital investment. Wants to produce **auto repair equipment; grinding machinery such as universal, crankshaft, magnetic, cylindrical and surface machines; and radical drilling and multidrill automatic lathes.** Firm presently makes vertical boring machines. Believes the machines would have a market in the Middle East countries. Erkal Makina Sanayii A.S., Istanbul Caddesi 124, Ankara, Turker, WTDR. P-74145. OPIC.

3553—PAKISTAN—New public sector firm seeks joint venture to manufacture **textile machinery.** Organization plans to initially produce core winding machines, later move into manufacture of ring spinning frames. Interested in obtaining technical know-how; agreeable to equity participation by U.S. partner. M. B. Faroogui, managing director, Textile Machinery Corp., Karachi, Pakistan. Details are available from Foreign Investment Services Staff, Office of Export Development, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230. P-74150. OPIC.

3599—INDIA—Bombay firm seeks manufacturing rights for **fluid power products.** Interests include **pneumatic and hydraulic cylinders, control valves, air separator units and related equipment.** Raw materials such as seamless steel pipes, copper winding wire and aluminum castings available locally. Site for proposed project will be selected in consultation with foreign licensee. Indian firm believes sales can reach $1.3 million by end of third year of production. There is an increasing interest by Indian companies in high pressure hydraulic systems. Presently, Indian concern makes hydrogenated oil, oilcakes, soap and tin containers; it wants to diversify. M. S. Rao, project manager, Western India Vegetable Products Ltd. (WIVP), Hasham Premji House, 5 Ghoga St., Bombay 400 001, India. WTDR. P-74146. OPIC. Additional information is available from Foreign Investment Services Staff, Office of Export Development, Room 4021, U.S. Department of Commerce, Washington, D.C. 20230.

3613—TUNISIA—Seeks license to assemble and produce about $1.5 million of **electrical equipment** annually. Interests include **switch-gear and residential electrical fixtures.** U.S. participant offered equity. Tunisian company plans to build new plant on 7,000 sq. me. site. Equipment should be designed to meet European standards. Electrical current in Tunisia is 50 c., mainly 220 v. with some 380 v.; metric system used for measurements. Tunisian concern is distributor of electrical equipment, household appliances and air conditioning units. Requests correspondence in French. Farhat Sassy, Electrification Generale, Ave. No. 5 Au Port, Tunis, Tunisia. P-74148. OPIC.

3646—THAILAND—Seeks joint venture or similar agreement to manufacture **fluorescent tubes** and other products. Needs machinery, technical know-how. Land, labor and such raw materials as glass tubes are available locally. Firm plans initial production of 100,000 tubes per month. Statistics indicate Thailand imported around 6 million fluorescent tubes in 1972. Thai company currently distributes cosmetics, operates perfume mixing plant. Chitti Angsantikul, assistant manager, Mary & Co., Ltd., 261-3 Chakrawat Road, Bangkok, Thailand. P-74151. OPIC.

3675—INDIA—Seeks license to manufacture **styroflex capacitors.** Firm plans to produce 10 million units annually. Plant would be located near Calcutta where labor and infrastructure are available. Indian company can provide financing; needs technical know-how. Preliminary permission to establish project has been obtained from Government of India. Indian Investment Centre, 708 Third Ave., N.Y. 10017. P-74162. OPIC.

Licensing In U.S.

For additional information on these opportunities to manufacture foreign firms' products in the U.S. under a licensing agreement or in partnership, write the Investment Services Staff, Bureau of International Commerce, Room 4020, U.S. Department of Commerce, Washington, D.C. 20230 (202-967-2248), referring to the appropriate file number.

GERMANY—A German firm is interested in licensing for production in the U.S. its **insulating matting and building modules** for the construction industry. The modules can be used for shelter, working and office space, and storage. Special advantages for both products are foreseen in climates where extreme weather conditions are a detriment to production time. These products have been well received on the market and won several gold medals at international fairs in 1973. **File 2546.**

GERMANY—Potential U.S. licenses are being sought by a German company for manufacture of its **fabricated railroad crossing slabs.** These slabs, made of precast, reinforced concrete, are installed under a new flotation concept, with mortar bags placed on ties serving as support. **File 2547.**

NETHERLANDS—A Dutch firm wishes to license production in the U.S. of two **educational mosaic games,** SCOPE and COMPO-60. These games, made of polystyrene and produced in a plastics factory, are intended for preschool children and children of 6 years or more, respectively. **File 2548.**

SWITZERLAND—Swiss importer and distributor of sporting equipment offers for manufacture in the U.S. a novel type of **safety release ski binding.** Already tested extensively in Switzerland with great success and patented in most countries of the world, the binding offers several new features. These include release in case of a backward fall (in addition to lateral falls), improved long stroke safety release, and substantially reduced wear and tear on ski boots. **File 2549.**

SWITZERLAND—Company specializing in the engineering, construction, and installation of **heat recovery units** for air-conditioning systems seeks a licensee for production of these units in the U.S. Already in use in several European countries, the units are based on the parallel glass plates exchanger system. Applications include commercial and industrial air-conditioning plants, as well as room air conditioners. A cross licensing arrangement in energy conservation or recovery systems complementary to these heat exchangers will be considered. **File 2550.**

FRANCE—Large French concern, with sales and distribution office in Chicago, wishes to enter a joint manufacturing venture with a U.S. firm of same approximate size and with similar product line. French company manufactures **switchgear and switchgear apparatus, industrial controls, current-carrying wire devices, intercommunication equipment, and electric and signal systems devices. File 2551.**

GERMANY—Large German firm, which manufactures machinery and equipment for production of steel cable, ropes, and high tension wires, wishes to acquire a majority interest in an existing U.S. company. Preferable is a company employing about 150 workers and equipped for production of medium to large machines. **File 2552.**

UNDP Announces Eight Contracts

The United Nations Development Program recently announced that contract opportunities concerning economic development projects for low-income countries are available for international bidding.

Contracts are awarded on an international competitive basis; therefore, interested U.S. firms should direct inquiries to the responsible executing agency which is indicated after each project. The initial contact should include a resume of the inquiring firm.

Projects that are preceded by a bullet (●) had not been approved at the time of this announcement, and are subject to modification and/or cancellation. Maximum allowable cost of projects is in parentheses.

● BOLIVIA — BOL/71/532 — Natural resources. Assessment of energy resources, phase II, anticipated subcontract work. Requirements: aerial photography and renting of aircraft and helicopters. ($128,400). Expected to begin mid 1974. Executing Agency. United Nations, New York, N.Y. 10017.

● DAHOMEY — DAH/73/017 — Industry: Integrated industrial development. Anticipated subcontract work requirements, feasibility studies: Advisory services for large-scale enterprises, in various industrial sectors as subsequently to be defined (to be determined). Expected to begin July 1974. Executing agency: UNIDO, Felderhaus, Rathausplatz 2, A-1010 Vienna, Austria.

● LIBERIA — LIR/73/013 — Agriculture, forestry and fisheries. Strengthening of agricultural research and field services in support of regional development. Anticipated subcontract work requirements: Drawing up a comprehensive program of work, including studies of rotation to conserve soil and water; cultural practices for farmers; forage crop improvement and management. ($37,500). Expected to begin September 1974. Executing Agency: FAO, Via delleterme de Caracalla, 00100 Rome, Italy. Express interest before July 1.

YUGOSLAVIA — YUG/73/010 — Natural resources. Mineral exploration in the Socialist Republic of Montenegro. Anticipated subcontract work requirements: External analytical services. ($5,000). Expected to begin first half 1974. Executing Agency: United Nations, see address above.

REGIONAL — RAS/72/025 — Agriculture, forestry and fisheries. South China sea fisheries development and co-ordinating program. Anticipated subcontract work requirements: charter of vessel for exploratory fishing and training. ($250,000). Expected to begin 1974. Executing agency: FAO.

● GUYANA — GUY/73/005 — Prefeasibility studies on establishment of deep water harbor—natural resources. Anticipated subcontract work requirements: Prefeasibility studies required including necessary equipment. ($300,000). Expected to begin May 1974. Executing agency: UNDP, Information Division, Carnegie Bldg. 3rd floor, 345 E. 46th st., New York, N.Y. 10017.

SUDAN — SUD/72/022 — Transport and communications. Administrative and logistic support. Anticipated subcontract work requirements: Air charter services. ($108,000-$36,000 per annum). Expected to begin first half 1974. Executing agency: UNDP.

● SUDAN — SUD/73/001 — Agriculture, irrigation, forestry and fisheries. Land development project, Southern Sudan. Anticipated subcontract work requirements: Excavating drainage canal. ($30,000). To begin early 1974. Executing Agency: FAO.

Foreign Trade Opportunities

These trade opportunities are based on reports received from the U.S. Foreign Service by the Trade Opportunities Division, Room 1322, U.S. Department of Commerce, Washington, D.C. 20230. The commodities in which foreign firms have interest are indicated by the five-digit numbers and commodity classifications which are from the Standard Industrial Classification (SIC) Manual and the Numerical List of Manufactured Products, 1967 Census of Manufactures.

U.S. firms should be aware that the listing in Commerce Today *of opportunities to trade in specific commodities and technical data does not necessarily imply approval of their export by the Department of Commerce pursuant to the Export Administration Act of 1969. Applicable export licensing regulations must be followed.*

Every effort is made to include only traders with good reputations. However, the Department cannot be responsible for any trade relations.

Abbreviations used are: I (importer); D (distributor); M (manufacturer); A (agent); R (retailer). To avoid delays, requests for loan material must specify country, commodity, foreign government agency.

WTDR indicates that a World Traders Data Report on this specific firm is available at $15 from the Export Information Division, Room 1313, U.S. Department of Commerce, Washington, D.C. 20230. A WTDR is a trade profile which contains commercial information, including financial references, on an individual foreign firm. Orders must include complete name and address of the subject firm and be accompanied by payment. Further information concerning WTDRs and request forms are available at each Commerce District Office.

Direct Sales

Foreign private firms are interested in agency agreements and/or distributorships for these products. See also "Representations" listings.

Wood products

●**2910—IRAN**—Iranian State Railways invites tenders for 2,000 pieces of impregnated wooden posts, length: about 11 meters; top end diameter—minimum 15 centimeters. Invitation number 2723/52 available at Department of Commerce (202-967-2606). Bid deadline May 14. Purchasing General Department, Iranian State Railways, Iran.

Drugs

●**28300—ALGERIA**—Supply of drugs and pharmaceuticals. Tenders Nos. 1H75 and 2H75, bid deadline April 21. Mons. Le Directeur General, Pharmacie Centrale Algerienne, 2 Rue Richat, Algiers. When received, specifications available in French from the Materials Division, Bureau of Domestic Commerce, Room 2130, U.S. Department of Commerce, Washington, D.C. 20230, telephone: 202-967-3910.

28300 — SRI LANKA — The State Pharmaceuticals Corporation of Sri Lanka is compiling a register of suppliers of pharmaceutical preparations and raw materials required for the manufacture of pharmaceuticals. If any U.S. exporters of either pharmaceuticals preparations or raw materials wish to be registered with the Corporation as regular suppliers, it is suggested that they contact Mr. S. M. Edirimonasinghe, Managing Director, State Pharmaceuticals Corporation of Sri Lanka, 2 Gregory's Ave., Colombo 7, and request from him the necessary forms for registration. Prompt action by interested parties is urged.

Chemical products

2892113 — 289118 — 289217 — FRANCE — Explosives for use in blasting bituminous rocks (pearled urea or similar products)—4,000 tons. Product needed urgently. Mr. Lionel Monange, Mgr., Compagnie Madecasse Commerciale, 96 Rue Aristide Briand, 92300 Levallois. Telex 62.267F; Tel: 270.71.09, 270.80.24.

Petroleum refining

●**2911631 — PORTUGAL** — Hexane (vegetable oil extraction grade). Sacor specified following items: 2,500 mt./yr., in bulk shipment lots of 700/1,200 mt. ea., price may be C.I.F., C&F or F.O.B. Transportation of hexane and sulfur from east coast of U.S. to Portugal requires above & 2,500 mt. sulphur/yr. in bulk shipment, lots of 600/700 mt. ea. Hexane loading date of first lot should be as soon as product is available & other lots are to be transported at regular intervals. Sulphur loading dates should be: July, August, September & October. Port of discharge of hexame must be Aveiro (north/central Portugal), where berth conditions permit vessel length up to 95 meters & draft 18 ft. (loaded) max. Discharge of sulphur must be in Lisbon, under following berth conditions: vessel's length should not exceed 150 meters, & draft should not exceed 18 ft. Sacor (WTDR 2/73) is a very large corp. operating as petroleum refinery & petroleum products retailer. Financial references: Banco de Portugal, 148, Rua do Comercio, Lisbon 2; & other Portuguese banks. Reply to—Eng. Duarte P.C. Freitas do Amaral, V.P., Sacor, S.A.R.I. Sociedade Anonima Concessionaria da Refinacao de Petroleos em Portugal, Rua das Flores, 7, Lisbon. Cable Sacor-Lisbon; tel. 370371.

Glass, glassware

3229312 — TANZANIA — Strong, flexible fiber glass sheet, one side coarse, to cut & convert into beehives of barrel shape in 30 in. length by 18 in. dia., capable of supporting total weight of 50 to 60 kilos. If stapling of fiber glass with stapling gun possible, suggest type & source of supply of such stapling device. Inquirer, a very large processor & exporter of natural honey, desires to place initial order to use in development of final design of new-style beehive from fiber glass sheets. Buyer's plan is to refine design of drum-shaped beehive of fiber glass which will be used in replacing

traditional beehives (constructed from logs) currently in use. Following completion of design work, Inquirer will purchase fiber glass sheeting to mfr. 20 to 30,000 beehives next yr. with additional orders to follow. Reply to—L. Charles Tardiff, mgr., Iabora Beekeepers Co-Op. Soc. Ltd., P.O. Box 422, Tabor. Cable Beesoc, Tel 2191.

Steel mill products

●**33100 — COLOMBIA** — 820 tons of steel material for repair of RR bridges. Tender No. 43; bid deadline extended to April 25.

●**33100—EGYPT**—15,000 metric tons hot rolled steel slabs of dimensions 140-150 x 1040 x 5700-6000 MM; chemical composition: C 0.09-0.15%, MN 0.25-0.50%, SI 0.07% max., P 0.045% max., S 0.055% max., and N 0.008% max. No fixed bid deadline. Egyptian Iron and Steel Co., 54 Ablel Khalek Sarwat St., Cairo. Cable address: Hadisolb, Cairo. Specifications available at above address.

●**33100—KOREA**—23.38 mt welding wire and 21.04 mt welding flux, to be used for fabrication of pipes. Tender No. ADB/L 74020 PII; bid deadline May 2. Office of Supply, Government of the Republic of Korea, Seoul. Specifications available from Iron and Steel Program, BDC, U.S. Department of Commerce, Washington, D.C. 20230, phone 202-967-2438.

●**33100—SRI LANKA**—Various quantities and sizes of spring steel. Tender No. 2B/74/2; bid deadline April 22. Sri Lanka State Trading (General) Corp., P.O. Box 1686, 119 Wekande Rd. Colombo 2, Sri Lanka. Specifications available from Iron and Steel Program, BDC, U.S. Department of Commerce, Washington, D.C. 20230, phone 202-967-2438.

●**33100—THAILAND**—1,500,000 pcs. elastic rail spikes. No tender number; bid deadline May 29. Procurement Division, State Railway of Thailand, Bangkok. Tender documents available from Iron and Steel Program, BDC, U.S. Department of Commerce, Washington, D.C. 20230, phone 202-967-2438.

Construction, mining, materials handling machinery, equipment

●**35300—INDIA**—89 items of mining equipment and spare parts including safety hooks, slipring induction motors, coal drills, coal cutting machines and related equipment. Tender No. MCCL/CC(P&S)/73. Imports/103 and 74 Imports; bid deadline not specified. Chief Controller (P&S), Bharat Coking Coal Ltd., P.O. Jealgora, Dhanbad District, Bihar. Specifications available on short-term loan basis from the Transportation and Capital Equipment Division, Room 2806, Department of Commerce, Washington, D.C. 20230, phone 202-967-5593.

Special industry machinery

●**35500—TUNISIA**—Extension of existing Tunisian Government-owned glassware plant. One feeder, glass blowing machine and an end port furnace, excluding boostings, exclusively for bottle-making. Tender number and bid deadline not specified. Interested firms should contact Societe Tunisienne De Verrerie (Sotuver), Megrine Riadh, Tunisia. When received, specifications available on a short-term loan basis from the Transportation and Capital Equipment Division, Room 2806, Department of Commerce, Washington, D.C. 20230, phone 202-967-5593.

Service industry machinery

●**35800 — IRAN** — The Iranian State Railways, Tehran, has issued tender No. 1855/52 for one washing machine for washing, rinsing, and ironing of bed sheets of passenger coaches. Bid deadline is May 8. Copies of tender announcement and specifications available from above address, or on a short-term loan basis to firms located in the U.S. from the Science and Electronics Division, BDC-466, Room 1001, U.S. Department of Commerce, Washington, D.C. 20230, telephone: (202) 967-2939.

●**3585391—POLAND**—The Central Laboratory of the Gastronomic Industry, working on a plan for development and modernization of Polish restaurant and fast-food establishments, wishes to contact potential U.S. suppliers of complete lines of restaurant equipment to discuss possible purchases, or cooperation agreements, or production under license. Interested companies should contact: Dr. Krzysztof Chabrowski, Centralne Laboratorium Przemyslu Gastronomicznego, Ul. Lwowska 17, 00-660 Warsaw, Poland. Firms new to this market may wish to contact the Trade Development Assistance Division, Bureau of East-West Trade, U.S. Department of Commerce, Washington, D.C. 20230, 202-967-3352 for advice on trading practices in Poland, negotiations, contracting, etc.

3589589—THAILAND—Machines for stringing tennis, badminton & squash rackets of both steel & wooden frames. Machines required, which should be operated automatically & of hydraulic type, are for firm's use & possible retail to local customers. Requests C.I.F. Bangkok prices, catalogs. Firm is largest mfr. of shuttlecocks & badminton frames in Thailand & also considered to be largest distributor of sporting goods. Reply to—Mr. Y. Utiskul, Mng. Dir., The Eagle Sports Co., Ltd., 232/6-7 Siam Sq., Corner Lane 2, Bangkok. Cable—Eagsportco Bangkok. Dir. sale & distributorship.

Electric transmission, distribution equipment

●**36100—CYPRUS**—Supply, delivery and maintenance for 18 months of two 10.5/15 MVA and three 5 MVA 66/11.51 KV transformers. Contract No. 2959/18-Substation Transformers, bid deadline May 3. Electricity Authority of Cyprus, P.O.B. 4506, Nicosia. Tender documents available from above address upon payment of approximately $54 for set of four documents. Brief description of contract available from Transportation and Capital Equipment Division, Room 2806, U.S. Department of Commerce, Washington, D.C. 20230, phone 202-967-3526.

●**36100—INDIA**—Supply of control and relay panels for electric power substations. Tender No. IDA/KSEB/5, bid deadline May 2. The Chief Engineer (Electricity), Kerala State Electricity Board, Post Box No. 65, Trivandrum 695023. Tender under IDA credit. Documents available from above address or India Supply Mission, 2536 Mass. Ave., N.W., Washington, D.C. for approximately $1.20.

Communication equipment

●**36600—JORDAN**—The Supply Department, Headquarters, Captain D. Mismar, Royal Jordanian Air Force, Amman, has issued a tender (no number) for automatic telephone exchange, 800 extension lines, 60 magneto lines, 30 exchange lines (outgoing), with necessary power plant, 220/250 volts, 50 cycles A.C. Bid deadline not specified. Copies of tender announcement and specifications are available from above address.

●**36600 — SINGAPORE** — The Singapore Telephone Board (STB), has issued a tender (no number) for pulse code modulation equipment (two complete terminals interconnected by a series of line repeaters). Bid deadline not specified. Copies of tender announcement and specifications available from STB, or on a short-term loan basis to firms located in the U.S. from the Science and Electronics Division, BDC-466, Room 1001, U.S. Department of Commerce, Washington, D.C. 20230, telephone (202) 967-2939, when tenders received.

Railroad equipment

●**37400—BURMA**—Supply of 2000 diesel fuel filter cartridges. Tender No. BRC/IDA/12(T) 52 (M) 73-74. Bid deadline May 3. The Managing Director, Burma Railways Corporation, Bogyoke Aungsan Street, Rangoon, Union of Burma. Financing by International Development Association (IDA) loan. Copy of tender documents available Room 1128, Department of Commerce, Wash., D.C. 20230, phone 202-967-3296.

●**37400—INDIA**—Supply of facility for dumping ore wagons. To include rotary dumpers and wagon handling system. Bid deadline May 20. Chairman, Paradip Port Trust, P.O. Paradip Port, Cuttack District, Orissa, India. Copies of specifications available for $36 including postage from Chief Electrical and Mechanical Engineer at above address by demand draft payable to Financed Adviser and Chief Accounts Officer, Paradip Port Trust.

●**37400—IRAN**—Supply of 3 sanding units for diesel locomotive maintenance. Capacity 50 tons per 24 hours. Tender No. 1856/52, bid deadline May 6. The Iranian State Railways, Tehran. Copy of tender documents available from the Transportation and Capital Equipment Division, BDC, U.S. Department of Commerce, Washington, D.C. 20230. Telephone 202-967-3296.

●**37432 — NORWAY** — A.S. Norcem, Box 1386/V, Oslo, wishes to purchase 12 closed or open hopper cars. The firm, a major Norwegian cement producer, needs cars to carry crushed limestone with a specific gravity of 1.5 metric tons per cubic meter. Cars should be of steel construction, standard gauge, have automatic bottom dump, 22 metric ton axle load, and conform to European safety and design standards. Norcem intends to finance the transaction from current earnings. Interested manufacturers should address correspondence to Mr. Worm Lund, c/o A/S Sydvaranger, Box 197, Oslo, Norway. Mr. Lund is acting as Norcem's consultant for the transaction.

3743321 — ARGENTINA — 400 complete bogies of welded plate. Specifications: Gauge, 1,435 mm.; wheels can be 33" or 37.5", equip. with rear control; equip. with bearings; journals (Munones) 5½" to 10"; 20 tons per axle; built for service at normal 120 kilometers per hr.; built in accordance with A.A.R. standards. Potential customer requests quotations as soon as possible, with delivery date. Customer is large mfr. engaged in mfr. of freight cars for Argentine State Railways & other fabricated metal products. Employs 250 in industrial complex located in Province of Buenos Aires. Firm recently awarded contract with Govt.-owned railways to furnish large number of railway cars. Is interested in plans to mfr. bogies in Argentine, & would like to receive proposal from supplier. Reply to—Cesar Cao Saravia, Emepa, Establecimiento Metalurgico Patriia Argentina, Sarmiento 3060, Buenos Aires.

Instruments for measurement, control and analysis

●**38200 — CYPRUS** — The Electricity Au-

thority of Cyprus, P.O.B. 4506, Nicosia, Cyprus, has issued tender No. 111/1974 for 14,200 units of single-phase and three-phase electricity meters. Bid deadline April 19. Copies of tender announcement and specifications available from above address on payment of approximately U.S. $54.00.

●**38200—MALAYSIA**—The Director-General, Drainage and Irrigation Dept., Jalan Swettenham, Kuala Lumpur 10-02, has issued a tender (no number) for rainfall recorders, metric, consisting of two separate parts, receiver with tipping bucket device and recorder connected by conductor cable. Bid deadline April 30. Copies of tender announcement and specifications are available from above address for M $10.00 (U.S. $4.10)., or on a short-term loan basis to firms located in the U.S. from the Science and Electronics Division, Room 1001, U.S. Department of Commerce, Wash., D.C. 20230, telephone 202-967-2939.

●**38200 — MALAYSIA**—The Director-General, Drainage and Irrigation Dept., Jalan Swettenham, Kuala Lumpur 10-02, has issued a tender (no number) for small current meters suitable measuring slow or fast current in river under variety conditions. Bid deadline April 30. Copies of tender announcement and specifications are available from above address for M $10.00 (U.S. $4.10) or on a short-term loan basis to firms located in the U.S. from Rm. 1001, Department of Commerce, Washington, D.C. 20230, telephone 202-967-2939.

Wholesalers

50930—TAIWAN—Polyethylene scrap, density 0.910-0.925, to be reused for extrusion of bags, films, etc. 200 tons, $50,000. Quote c.i.f. Reply to—Mr. S. J. Yu, Pres., Shing Sheng Plastic Industrial Co., Ltd., 74, Alley 35, Lane 181, Fu Chien Road, Taiwan (700). Cable Shing; tel. 062-55744.

Representations

Foreign private firms are interested in agency agreements and/or distributorships for these products.

Pulp mills, products

2611216 · 2611235 · 2611243 · 2611272 — GREECE—Wood pulp in sulfite, bleached paper grades; sulfate, bleached paper grades; sulfate, unbleached; semichemical, including chemi-pulp. Firm needs total of about 100,000 mt. However, even small quantities acceptable. Interested in shifting towards U.S. sources. Recommended any transactions connected with this trade opportunity be secured by irrevocable letter of credit. Reply to: Angelica Catris-Triantaphyllopoulos, Owner-Mgr., Angelica Catris-Triantaphyllopoulos, 22 Anagnostopoulou St., Athens 136. Tel.: 626-890.

Industrial chemicals

2819949 — 2819717 — 2819716 — 2819975 — MALTA — Magnesium chloride; potassium bicarbonate, potassium metabisulphite, and potassium sorbate; potassium sulphate; sulphur dioxide (liquid). Requests c.i.f. Malta prices. Willing to pay by cash against documents. Reply to—Mr. Joseph G. Coleiro, Mng. Dir., Coleiro Bros. Ltd., 60 Pinto Road, Marsa. Cable: Fracoleiro-Malta; Tel.: 25458, 27748, 21139. Excl. agency & distributorship.

Gum, wood chemicals

2865511 — MALTA — Naphtalene. Requests c.i.f. Molta & f.o.b. U.S. prices. Reply to —Mr. John Parnis England, Dir., W. J. Parnis England, Ltd., 60 South St., Valletta. Cable Faraday-Malta. Tel. 24306. Excl. agency & distributorship.

Rubber footwear

3021121—JAPAN—Rubber & plastic protective boots, in small & medium sizes, for re-sale to chain of retail hardware outlets. Price range not known by buyer. Product literature & price quotations by gross desired. Buyer foresees small inital order for trial purposes. Reply to—Mr. S. Hayashi, Pres., Pan Japan Trading Co. Ltd., 5-20 Kumamoto 3-Chrome, Kokura-ku, Kitakyshu 802. Tel. 093-941-5391. Excl. agency.

Rubber & Plastic Hose & Belting

30413XX—30414XX—GERMANY—Braided rubber hose used as dust suppression water hose for mining equip. Required in two lengths, 510 meters & 210 meters, with inside dia. 2 in., working pressure 125 lbs./sq. in. & burst pressure 600 lbs./sq. in. Firm designs mining equip. & is wholly owned subsidiary of very large W. German mining equip. co. No local availability of specified hose and firm urgently seeks overseas supplier. Requires prices and soonest delivery date. Mr. Bernard Schmidt, Weserhuette Otto Wolff Pty Ltd., 188 Silverwater Rd., Silverwater NSW 2121 Australia.

Glass, glassware

3229312 — KOREA — Glass fiber — Textile type fiber & yarn. ECG ranging from 150-225, k3.8S and K4.03S. Monthly requirements 50 m/t. wishes to represent U.S. mfrs./suppliers and to import subject items for direct distribution. Specializes in handling industrial raw materials including dyestuffs, cow hides, textile yarns & chemicals. Interested U.S. firms contact Mr. Chung, providing specifications, quotations, delivery terms, catalogs, swatches, samples. Direct sale & distributorship. Reply to—Mr. Chung Myung-Chul, mng. dir., Iljin Industries, Inc., CPO Box 5805, Seoul 100. Cable: Getahead, Seoul. Phone: 22-6765.

Pottery, related products

3264013 — IRAN — 100,000 ea. pintype porcelain insulators for 20 Kv. Reply to—Cohen, Farhan Techno Engineering Co., P.O. Box 14/1664, Tehran. Tel: 628425.

Toys and amusements, sporting goods

3942006 — 3944221 — 3944238 — 3944265 — BOLIVIA — Dolls & stuffed toy animals, regular sizes; toy trains and equipment; non-powered transportation toys; toy guns, gun sets and rifles. Macdonald is probably Bolivia's third ranked commercial house, with a distribution network covering the entire country. This is the firm's first effort to get into toy business. Catalogs and descriptive literature from toy producers desired. Reply to: Mr. Alfredo Landivar, Macdonald & Co. (Bolivia) S.A., Casilla 879, La Paz. Cable: "Donald", La Paz. Telex: BX Donaldo 5262. Excl. distributorship.

Future Construction Abroad

INDONESIA—International Industrial Co., Ltd. (IIC) wishes to **lease construction equipment for highway construction project** in Indonesia. IIC is negotiating a $7 million contract with Indonesian Government for highway construction under IBRD loan. Equipment must be delivered in Ports of Manado and Inobonto on Sulawesi Island, Indonesia, with first delivery in May. Construction work to commence in August. IIC is also interested in long-term financing arrangements for proposed leasing deal. Interested U.S. leasing firms should contact Mr. Hon, Bok-Won, President, International Industrial Co., Ltd., CPO Box 1124, 11th Fl., Daewoo Bldg., 3-106, 1-Ka, Do-Dong, Chung-ku, Seoul, 100, Korea; Cable: KINGTIGER, Seoul; Telex: KJTIGER 27328-S; Phone: 28-1266/9.

TANZANIA—The Zanzibar Government has announced a two-fold program. **Expansion and modernization of Zanzibar Town's existing harbor and port facilities** will include dredging and deepening of present harbor area and construction of improved wharfage and berth space for deeper-water vessels; at present, all cargo offloading from deep-water vessels is done by lighterage. **Construction of a new deep-water port and related facilities at Chake Chake, Pemba** will include deepening of the access channel to Chake Chake, development of the harbor area, and construction of modern port and berthing facilities. Estimated cost: Zanzibar, $12.7 million, and Pemba, $19.7 million. Contractor for project will be selected by Zanzibar Government on basis of competitive bids, and tenders will be offered soon. Interested U.S. construction firms should contact Shabaan Khamis Mloo, Department of Public Works, Zanzibar, Tanzania.

YUGOSLAVIA — Zajednica Jugoslovenski Elektroprivrede (JUGEL) invites firms to bid to supply **relays and meters for its power transmission project,** being financed by IBRD Loan No. 836-YU. Equipment required: 39 ea. complete protection for transmission line 380 KV network; 38 ea. complete protection for transmission line 220 KV network; 60 ea. complete protection for transmission line 110 KV network; 5 ea. bus-bars for 380 KV network; 3 ea. bus-bars for 220 KV network; 5 ea. bus-bars for 110 KV network; 12 ea. protection 400 MVA; 11 ea. protection 300 MVA; 2 ea. protection-regulation of transformers 300 MVA; 28 ea. counters, 3 phase, impulse, double tariff watt meters; accuracy class 0.2; 96 ea. counters, 3 phase, impulse, double tariff watt meters, accuracy class 0.5; 123 ea. counters, var-hour meters, accuracy class equal 3.0 or less; 66 ea. counters, 3 phase recording watt meters; 38 ea. counters, 3 phase var-meters; 20 ea. summation watt-hour meters; 28 ea. time-switches. Tender documents available on payment of $150 per set from Zajednica Jugoslovenski Elektroprivrede, Coordinating Committee, Balkanske 13-15, 1100 Beograd, Jugoslavia. Payment should be made to Account No. 60811-620-58-3096-10-2-1378, Yugoslav Foreign Trade Bank, Belgrade. Attn: "Power Transmission Project Tender 10-A". Payment will not be refunded. Tenders received until April 22.

SYRIA—Dr. Yasin Al-Usta, Governor of Damascus, announced the letting of a bid for a **system of roads, bridges, overpasses & underpasses** in the western part of city. The proposed roadways total 20 kilometers in length with an additional two kilometers in bridging. Estimated cost is 50 million Syrian pounds. Estimated completion date is two years from signature of contract. Deadline for bids May 15.

☆ U.S. Government Printing Office: 1974—542-691/19

Commerce Department Directory

Commerce Building, 14th Street and Constitution Avenue, Washington, D.C., 20230

Phone (202) 783-9200

FREDERICK B. DENT, Secretary of Commerce

JOHN K. TABOR, Under Secretary of Commerce

SECRETARIAL OFFICERS

WILLIAM W. BLUNT, Jr., Asst. Secretary for Economic Development

HENRY B. TURNER, Asst. Secretary for Administration

SIDNEY L. JONES, Asst. Secretary for Economic

BETSY ANCKER-JOHNSON, Asst. Secretary for Science and Technology

ROBERT J. BLACKWELL, Asst. Secretary for Maritime Affairs (Maritime Administration)

C. LANGHORNE WASHBURN, Asst. Secretary for Tourism (United States Travel Service)

KARL E. BAKKE, General Counsel

TILTON H. DOBBIN, Asst. Secretary for Domestic and International Business (Domestic and International Business Administration)

HEADS OF OPERATING UNITS

ROBERT M. WHITE, National Oceanic and Atmospheric Administration

ROBERT H. ENSLOW, Office of Foreign Direct Investments

C. MARSHALL DANN Patent Office

RICHARD W. ROBERTS National Bureau of Standards

VINCENT P. BARABBA, Bureau of the Census

GEORGE JASZI, Bureau of Economic Analysis

EDWARD D. FAILOR, Social and Economic Statistics Administration

JOHN M. RICHARDSON, Acting, Office of Telecommunications

WILLIAM T. KNOX, National Technical Information Service

ALEX M. ARMENDARIS, Office of Minority Business Enterprise

Domestic and International Business Administration

SETH BODNER, Bureau of Resources and Trade Assistance

MARINUS van GESSEL, Bureau of International Commerce

GARY M. COOK, Acting, Bureau of Domestic Commerce

LEWIS W. BOWDEN, Acting Bureau of East-West Trade

JOEL B. NEW, Office of Field Operations

DISTRICT OFFICES

ALBUQUERQUE, N.M., 87101, Room 316, U.S. Courthouse (505) 766-2386.

ANCHORAGE, 99501, 632 Sixth Ave., Hill Bldg., Suite 412 (907) 265-4597.

* **ATLANTA**, 30309, Suite 523, 1401 Peachtree St., NE. (404) 526-6000.

BALTIMORE, 21202, 415 U.S. Customhouse, Gay and Lombard Sts. (301) 962-3560.

BIRMINGHAM, ALA., 35205, Suite 200-201, 908 S. 20th St. (205) 325-3327.

BOSTON, 02116, 10th Floor, 441 Stuart St. (617) 223-2312.

BUFFALO, N.Y., 14202, Room 910, Federal Bldg., 111 W. Huron St. (716) 842-3208.

CHARLESTON, S.C., 29403, Federal Bldg., Suite 631, 334 Meeting St. (803) 577-4171, Ext. 361.

CHARLESTON, W.VA., 25301, 3000 New Federal Office Bldg., 500 Quarrier St. (304) 343-6181, Ext. 375.

CHEYENNE, WYO., 82001, 6022 O'Mahoney Federal Center, 2120 Capitol Ave. (307) 778-2151.

* **CHICAGO**, 60603, Room 1406, Mid-Continental Plaza Bldg., 55 E. Monroe St. (312) 353-4450.

CINCINNATI, 45202, 8028 Federal Office Bldg., 550 Main St. (513) 684-2944.

CLEVELAND, 44114, Room 600, 666 Euclid Ave. (216) 522-4750.

* **DALLAS**, 75202, Room 3E7, 1100 Commerce St. (214) 749-1514.

DENVER, 80202, Room 161, New Custom House, 19th and Stout Sts. (303) 837-3246.

DES MOINES, IOWA, 50309, 609 Federal Bldg., 210 Walnut St. (515) 284-4222.

DETROIT, 48226, 445 Federal Bldg. (313) 226-3650.

GREENSBORO, N.C., 27402, 203 Federal Bldg., W. Market St., P.O. Box 1950. (919) 275-9111, Ext. 345.

HARTFORD, CONN., 06103, Room 610-B, Federal Office Bldg., 450 Main St. (203) 244-3530.

HONOLULU, 96813, 286 Alexander Young Bldg., 1015 Bishop St. (808) 546-8694.

HOUSTON, 77002, 201 Fannin, 1017 Federal Office Bldg. (713) 226-4231.

JACKSONVILLE, 32207, Suite 129, 4080 Woodcock Drive. (904) 791-2796.

KANSAS CITY, MO., 64106, Room 1840, 601 E. 12th St. (816) 374-3142.

LOS ANGELES, 90024, 11201 Federal Bldg., 11000 Wilshire Blvd. (213) 824-7591.

MEMPHIS, 38103, Room 710, 147 Jefferson Ave. (901) 534-3213.

MIAMI, 33130, Rm. 821, City National Bank Bldg., 25 W. Flagler St. (305) 350-5267.

MILWAUKEE, 53203, Straus Bldg., 238 W. Wisconsin Ave. (414) 224-3473.

MINNEAPOLIS, 55401, 306 Federal Bldg., 110 S. Fourth St. (612) 725-2133.

NEW ORLEANS, 70130, 909 Federal Office Bldg., S., 610 South St. (504) 527-6546.

* **NEW YORK**, 10007, 41st Floor, Federal Office Bldg., 26 Federal Plaza, Foley Sq. (212) 264-0634.

NEWARK, N.J., 07102, 24 Commerce St. (201) 645-6214.

* **PHILADELPHIA**, 19106, 10112 Federal Bldg., 600 Arch St. (215) 597-2850.

PHOENIX, ARIZ., 85004, 508 Greater Arizona Savings Bldg., 112 N. Central Ave. (602) 261-3285.

PITTSBURGH, 15222, 431 Federal Bldg., 1000 Liberty Ave. (412) 644-2850.

PORTLAND, ORE., 97205, 921 S.W. Washington St., Suite 501, Pittock Block. (503) 221-3001.

RENO, NEV., 89502, 2028 Federal Bldg., 300 Booth St. (702) 784-5203.

RICHMOND, VA., 23240, 8010 Federal Bldg., 400 N. 8th St. (804) 782-2246.

ST. LOUIS, 63103, 2511 Federal Bldg., 1520 Market St. (314) 622-4243.

SALT LAKE CITY, 84111, 1201 Federal Bldg., 125 S. State St. (801) 524-5116.

* **SAN FRANCISCO**, 94102, Federal Bldg., Box 36013, 450 Golden Gate Ave. (415) 556-5860.

SAN JUAN, P.R., 00902, Room 100, Post Office Bldg. (809) 723-4640.

SAVANNAH, 31402, 235 U.S. Courthouse and Post Office Bldg., 125-29 Bull St. (912) 232-4321, Ext. 204.

SEATTLE, 98109, 706 Lake Union Bldg., 1700 Westlake Ave. North (206) 442-5615.

* **Regional Offices**

UNITED STATES
GOVERNMENT PRINTING OFFICE
DIVISION OF PUBLIC DOCUMENTS
WASHINGTON, D.C. 20402

OFFICIAL BUSINESS

POSTAGE AND FEES PAID
U.S. GOVERNMENT PRINTING OFFICE
First-Class Mail

U.S.MAIL

CRTD UNIVM300U R 1
UNIV MICROFILMS
SERIALS SECTION
300 NO ZEEB RD
ANN ARBOR MI 48106

HOW NTIS CAN WORK FOR YOU

Here's how you will benefit from Commerce's National Technical Information Service—the single control source for U.S. Government-generated specialized information.

No matter what your business, NTIS will help you keep up-to-date with the latest research and development, trends and federal activity.

This national resource exceeds

800,000

how-to-do-it handbooks, manuals, guides, bibliographies, state-of-the-art reviews and other reports.

Send now for the free NTIS Information Services Booklet to learn more about . . .

- SUBSCRIPTIONS to weekly newsletters of current abstracts in 23 fields of interest.
- CUSTOM SEARCHES of most federal research completed in the last decade.
- Purchase or lease of hundreds of MACHINE READABLE TAPES generated by government agencies.
- Standing order MICROFICHE SERVICE for the full texts of research reports.

Mail to:
National Technical Information Service
U.S. DEPARTMENT OF COMMERCE
Springfield, Va. 22151

Please send me the free NTIS Information Service Booklet. **NTIS-PR-154**

Name

Title, Organization

Address

City | State | Zip